ပ်ပ်ပ်ပ်ပ်ပဲပဲ

Run on:

```
QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LGLIAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GMARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEGASTVLQAWQRRFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWHIEKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLBELGPFASLEGFRELLDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHBLSGGCHGFSHKFMHWQEELLLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GMARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OEGENILTPEALGLHLOAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL
  Sequence 4, As
Sequence 4, As
Sequence 3, As
Sequence 62,
Sequence 62,
Sequence 64,
Sequence 48,
Sequence 48,
Sequence 48,
Sequence 6, As
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 1203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
US-09-724-631-4
US-08-954-701A-4
US-09-268-140-3
US-09-268-140-3
US-08-64-509B-48
US-08-64-509B-48
US-09-639-695-62
US-09-448-188-48
US-09-639-695-62
US-08-954-740-48
US-08-954-740-48
US-08-954-68-6
US-08-954-68-6
US-08-954-68-6
US-08-954-68-6
US-08-954-631-6
US-08-954-631-6
US-08-954-631-6
US-08-954-701A-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-293-505-2
Sequence 2, Application US/09293505
Sequence 2, Application US/09293505
Parent No. 6346575
GENERAL INFORMATION:
APPLICANT: de Sauvage, Frederic
APPLICANT: Garpenter, David A.
TITLE OF INVENTION: Patched-2
FILE REFERENCE: P1405R1
CURRENT PLING DATE: 1999-04-15
EARLIER APPLICATION NUMBER: US 60/081,884
EARLIER FILING DATE: 1999-04-15
NUMBER OF SEQ ID NOS: 32
SEQ ID NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 6272;
100.0%; Pred. No. 0;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                   ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Simitarity .vv. Matches 1203; Conservative
    1311
12311
12311
12399
12399
12399
12399
12399
12399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; ORGANISM: Homo sapiens
US-09-293-505-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
    335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
335.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
355.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 1203
  2235
2235
2235
2235
1993
1961.5
1961.5
1961.5
1961.5
1961.5
1936.5
1936.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local
      ଚ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Appli
Appli
Appli
Appli
Appli
                                                                                                                                          ; Search time 28 Seconds
(without alignments)
3207.244 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                               6272
1 WTRSPPLRELPPSYTPPART.....SPAATSSGNLSSRGPGPATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1
Sequence 1
Sequence 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence Sequence Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence '
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Issued_Patents_AA:*
1: /cgn2_6/ptodata/1/laa/5A_COMB.pep:*
2: /cgn2_6/ptodata/1/laa/5B_COMB.pep:*
3: /cgn2_6/ptodata/1/laa/5A_COMB.pep:*
4: /cgn2_6/ptodata/1/laa/6B_COMB.pep:*
5: /cgn2_6/ptodata/1/laa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/1/laa/PCTUS_COMB.pep:*
                       5.1.6
Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-293-505-2

US-09-060-939A-2

US-09-207-857-2

US-09-209-280A-7

US-09-209-280A-7

US-09-2060-939A-7

US-08-954-06-19

US-08-954-66-19

US-08-954-66-19

US-08-954-701A-19

US-08-954-701A-19

US-08-954-68-10

US-08-954-68-4
                                                                                                                                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                        513545 seqs, 74649064 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SUMMARIES
                         GenCore version (c) 1993 - 2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                        sw model
                                                                                                                                               June 14, 2005, 15:52:20
                                                                                                                                                                                                                                                                                                                                Gapop 10.0 , Gapext 0.5
                                                                                                      protein search, using
                                                                                                                                                                                                                                                                                                                                                                                                                                                       length: 0
length: 2000000000
                                                                                                                                                                                                                           US-09-990-046A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1203
1203
1203
11203
11182
11182
11447
1447
1447
1447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14447
1434
1434
1434
1434
14334
114334
1296
1311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                            Copyright
                                                                                                                                                                                                                                                                                                               BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            seg
                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score
                                                                                                                                                                                                                                                 Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                88
                                                                                                      OM protein
                                                                                                                                                                                                                                                                        Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Minimum I
Maximum I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Database
```

Result No.

120

180 180 240 240

120

9 9

Gape

ö

300

```
LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GMARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QLAQEAL PENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541 AVMLVPPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ALPGTPLOERMGECLORTGTSVVLTSINNMAAFLMAALVPIPALRAFSLOAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QEGENILIPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QAPTHCEASSQHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPPASLEGFRELLDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4,
COMPUTER READMBLE FORM:
MEDLUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/060,939A
FILING DATE: 15-Apr-1998
CLASSIFICATION: 435
ATTORNEY AGENT INRORMATION:
NAME: SYGDEDA, Craig G. REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: 39,044
REFERE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  $; Score 6272; I

$; Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%;
                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 1203 amino acids TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 100.
Best Local Similarity 100.
Matches 1203; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-060-939A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ૪
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ሯ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FDFIVRYFFRALTVLTLLGLLHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FDFIVRYFFAALTVLTLIGLLHGLVLLPVLLSILGPPPEVIOMYKESPEILSPPAPQGGG 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LRWGASSSLPQSFARVTTSMTVAIHPPPLPGAYIHPAPDEPPWSPAATSSGNLSSRGPGP 1200
                                                                                                                                                              540
                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL 960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                960
                                         480
                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGENLRIP 900
  QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                ALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                        LPCARWNLAHFARYQPAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WIHYYRNWIQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEMLHDKYDTGENLRIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PAQPLEFAQFPFILIRGLOKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGI
                                           SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE
                                                                                                                                                                                                      AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                               AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                                                                                   QAFTHCEASSQHVVTILPPQAHLVPPSDPLGSELFSPGGSTRDLLGGEETRQKAACKS
                                                                                                                                                                                                                                                                                                                         QAFTHCEASSQHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS
                                                                                                                                                                                                                                                                                                                                                                     LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH
                                                                                                                         ALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A. Carpenter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   David
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 2, Application US/09060939A
Patent No. 670938
GENERAL INFORMATION:
TITLE OF INVENTION: Patched-2
NUMBER OF SEQUENCES: 32
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genethech, Inc.
STREET: 1 DNA WAY
CITY: SOuth San Francisco
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 2
US-09-060-939A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1201
                                           421
                                                                                   421
                                                                                                                         481
                                                                                                                                                              481
                                                                                                                                                                                                        541
                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                             g
                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                    요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                     8
                                                                                                                       ઠ
                                                                                                                                                    g
                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                8
```

240

240

120 180 180

9 9

Gaps

420

540 540 900 900

480

9

900

900 960

780

780

840 840 1080

1140

1200

ö

Gaps ; 0

```
961 RRCFILLAVCILLVCTFLVCALLILINPWAGLIVLVLAMMTVELFGIMGFLGIKLSAIPVV 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                         1021 ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IGILAFGALALGIRMAIIETNIEQIMVEVGSRVSQELHYTKEKIGEEAAYTSQMLIQTAR 120
|||:||||||||||||||||
IGIVAFGALALGIRVAVIETDIEQIMVEVGSRVSQELHYTKEKIGEEAAYTSQMLIQTAH 120
LPCARWNLAHFARYQFAPLILQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG 720
                                                                                                                                                                                                                                                                                                    1081 FDFIVRYFFAALTVLTLIGLLHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                        WIHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                           TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGENLRIP
                                                                                                                                                                                                                                                                                PAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                                                                                                                                                                                    RRCFLLAVCILLVCTFLVCALLLLINPWTAGLIVLVLAMMTVELFGIMGFLGIKLSAIPVV
                                                                                                                                                                                                                                                                                                                                                                                                                       ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1081 FDFIVRYFFAALIVLTLIGLIHGLVLLPVILSILGPPPEVIQMYKESPEILSPPAPQGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1141 LRWGASSSLPOSFARVITISMIVAIHPPPLPGAYIHPAPDEPPWSPAAISSGNLSSRGPGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MVRPLSIGELPPSYTPPARSSAPHILAGSLQAPLWLRAYFQGLLFSLGCRIQKHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 3; Length 1182;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 89.3%; Score 5599; DB 3; Length 1 Best Local Similarity 90.9%; Pred. No. 0; Matches 1074; Conservative 43; Mismatches 64; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 7, Application US/09293505

Patent No. 6346575

GENERAL INFORMATION:

APPLICANT: de Sauvage, Frederic

TITLE OF INVENTION: Patched-2

TITLE REFERENCE: P1405R1

CURRENT APPLICATION NUMBER: US/09/293,505

CURRENT FILING DATE: 1999-04-15

EARLIER PILING DATE: 1998-04-15

NUMBER OF SEQ ID NOS: 32

SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1201 ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1201 ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 5
US-09-293-505-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-293-505-7
   661
                                                                      721
                                                                                                                                          781
                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                                                901
                                                                                                                                                                                                                                                                                                                                                                                                                         1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Н
                                                                                                                                                                                                                                                                                                                                                      961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                              g
                                                                                                   g
                                                                                                                                       ò
                                                                                                                                                                       g
                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                               Dp
                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QEGENILIPEALGLHLQAAITASKVQVSLYGKSWDLNKICYKSGVPLIENGMIERMIEKL 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GMARDPQGELLRABALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QEGENILIPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR 120
                                                                Sequence 2, Application US/09909280A
| Patent No. 6605700
| GENERAL INPORMATION:
| APPLICANT: BUNCIOÉE, David A. |
| ITLE OF INVENTION: THERETO |
| TILE OF INVENTION THERETO |
| TILE OF INVENTION WHERE: US/09/909, 280A |
| CURRENT APPLICATION NUMBER: US 09/207, 857 |
| PRIOR APPLICATION NUMBER: US 09/207, 857 |
| PRIOR FILING DATE: 1998-12-08 |
| PRIOR FILING DATE: 1998-12-08 |
| PRIOR FILING DATE: 1997-12-08 |
| NUMBER OF SEQ ID NOS: 6 |
| SOFTWARE: PatentIn Ver: 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MTKSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ALPGIPLQERMGECLQRIGISVVLTSINNMAAPLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWINLDPEQLLEELGPFASLEGFRELLDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GWARDPOGELLRAEALOSTFLLMSPROLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QLAQEALPENASQQ1HAFSSTTLDD1LHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ALPGIPLOERMGECLORIGISVVIISINNMAAFLMAALVPIPALRAFSLOAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QAFTHCEASSQHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                       99.6%; Score 6248; D
99.8%; Pred. No. 0;
cive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similaricy ... Matches 1200; Conservative
                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT
CORGANISM: Homo sapiens
US-09-909-280A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                    SEQ ID NO 2
LENGTH: 1203
                                     RESULT 4
US-09-909-280A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       중 점
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
```

us-09-990-046a-2.rai

 \mathbf{Thu}

g

g

ઠ

8 & ઠ g

ò g ò 요 g ò 유 ò g ò 요 8 g ઠે 셤 ò g ò 셤

ઠ

```
David A. Carpenter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         64;
                                                                                                                                                                                                                                                                disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         89.3%; Score 5599; DE
90.9%; Pred. No. 0;
tive 43; Mismatches
                                                                                                                                                                                                                                                            MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                          SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/060,939A
FILING DATE: 15-Apr-1998
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY AGENT INFORMATION:
NAME: SVODGA, Craig G.
REGISTRATION NUMBER: 39,044
REGISTRATION NUMBER: 91405
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 7:
SEQUENCE CHARACTERISTICS:
                              Sequence 7, Application US/09060939A
Patent No. 6709838
GENERAL INFORMATION:
APPLICANT: Frederic de Sauvage, 1
TITLE OF INVENTION: Patched-2
NUMBER OF SEQUENCES: 32
CORRESPONDENCE ADDRESS:
                                                                                                                                               ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1182 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 89.3
Best Local Similarity 90.9
Matches 1074; Conservative
                                                                                                                                                                                                                            ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 incl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: Amino Acid
                                                                                                                                                                                                                USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
TOPOLOGY:
US-09-060-939A-7
                                                                                                                                                                                                           COUNTRY:
ZIP: 9406
                  US-09-060-939A-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RRCFLLAVCILLVCTFLVCALLLLSPWTAGLIVLVLAAMMTVELFGIMGFLGIKLSAIPVV 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLVLAMMTVELFGIMGFLGIKLSAIPVV 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TRKLVDKEGLIPPELFYMGLIVWVSSDPLGLAASQANFYPPPFWLHDKYDTTGENLRIP 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          901 AAQPLEFAQFPFLLHGLQKTADFVEAIEGARAACTEAQQAGVHAYPSGSPFLFWEQYLGL 960
                                                                                  300
                                                                                                                                                  AQVGQAYVGRPCLDPDDPHCPPSAPNRHSRQAPNVAQELSGGCHGFSHKFMHWGEELLLG 300
                                                                                                                                                                                                                                                                                  SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE 480
                                                                                                                                                                                                                                                                                                                                                 SQGAVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDIFLLAHAFTK 480
                                                                                                                                                                                                                                                                                                                                                                                            ALFGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV 540
                                                                                                                                                                                                                                                                                                                                                                                                               APPDTPLPERMGECLRSTGTSVALTSVNNWVAFFMAALVPIPALRAFSLQAAIVVGCNFA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                            AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT 780
                                                                                                                                                                                                GMARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OAPTHCEASSQHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG
                                                                                                                                                                                                                GTARDLQGQLLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEGQASMVLQAWQRRFV
                                                                                                                                                                                                                                                              QLAQBALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WLHYYRNWLOGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                 FPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TKEHAPLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TRKL/VDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGENLRIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PAOPLEFAOFPFLLRGLOKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LRWGASSSLPQSFARVTTSMTVAIHPPPLPGAYIHPAPDEP 1181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1141
                                121
                                                                 181
                                                                                                                                 241
                                                                                                                                                                241
                                                                                                                                                                                                301
                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        961
   121
                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           721
```

q

Š

g ઠે 셤 8

ò

180 240 240 LGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR 120 300 300 GTARDLQGQLLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEGASMVLQAWQRRFV 360 QEGGNVLTPEALDLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIERMIEKL 180 GMARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV 360 QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ 420 SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE 480 9 9 1 WYPLSLGELPPSYTPPARSSAPHILAGSLQAPLWLRAYFQGLLFSLGCRIQKHCGKVLF QEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG FPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK 1 MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF Gaps .; 0 DB 4; Length 1182; Indels 421 셤

စ

g

셤 ò g à g Š g

ઠે

g

ò

g

ò

g

ò ద ð

ò

셤

쉽

ò

ò

```
TLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFS 764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              292 MDRPCLNPADPDCPATAPNKNSTKPLDMALVLNGGCHGLSRKYMFWQEELIVGGTVKNST 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   248 VGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLGGMARDPQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LLGQEEETRQXAACKSLPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTARQEGENILT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLJENGMIEWMIEKLFPCVILTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LDCFWEGAXLOGGSAYLPGRPDIQWTNLDPEQLLEELGPF-ASLEGFRELLDXAQVGQAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                308 GELLRAEALQSTFLLMSPRQLYEHFRG-DYQTHDIGWSEEQASTVLQAWQRRFVQLAQEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 367 LPENASQOIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQSQGSVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTBALPG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TPLQERMGECLORTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFVAVML
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----GTVPVGIAH--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -----LTATVQAFTHCEASSQHVVTILPPQAHLVPPP----SDPLGSELFSPGGSTRD
                                                                                                                                                                                                                                                                                                                                                                                                  12 PSYTPPARTAAPQILAGSL---KAPLWLRAYFQGLLFSLGCGIQRHCGKVLFLGLLAFGA
                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                186;
                                                                                                                                                                                                                                                                                                                                Length 1447;
                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 53.4%; Score 3348; DB 2;
Best Local Similarity 49.9%; Pred. No. 1.8e-314;
Matches 672; Conservative 203; Mismatches 285;
APPLICATION NUMBER: US/08/540,406
FILING DATE: 06-OCT-1995
CLASSIFICATION: 435
                                                                                  REGISTRATION NUMBER: 20015
REFERENCE DOCKET NUMBER: at TELECOMMUNICATION INFORMATION TRIEFPHONE: 415-781-1989
TELEPRAX: 415-394-3249
                                                                                                                                                        TELEFAX: 415-398-3249
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
                                                  ATTORNEY/AGENT INFORMATION: NAME: Rowland, Bertram I
                                                                                                                                                                                                           LENGTH: 1447 amino acids
                                                                                                                                                                                                                            TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                               MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                US-08-540-406-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               969
                                                                                                                                                                                                                                                                                                                                                                                                                                d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLAMMTVELFGIMGFLGIKLSAIPVV 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG 1140
                                       APPDTPLPERMGECLRSTGTSVALTSVNNNVAFFMAALVPIPALRAFSLQAAIVVGCNFA 540
                                                                                                                                                                                                                                                                                                780
                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                  840
                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                        960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901 AAQPLEFAQFPFLLHGLQKTADFVEAIEGARAACTEAGQAGVHAYPSGSPFLFWEQYLGL 960
                     540
                                                                                                                                                                                                                                                              720
                                                                                                                                                           QAFTHCEASSQHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS 660
                                                                                                                                                                             OAFTHCEASSOHVVIILPPOAHLLSPASDPLGSELYSPGGSTRDLLSQEEGTGPOAACRP
                                                                                                                                                                                                                                                   WIHYYRSWLQGIQAAFDQDWASGRITCHSYRGSEDGALAYKLLIQTGNAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FDFIIRYFFVVLTVLTLLGLLHGLLLDVLLSILGPPPQVVQVYKESPQTLNSAAPQRGG
                     ALPGTPLQERMGECLQRIGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                         LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG
                                                                                                                                                                                                                                                                                                TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                              TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                                                                    WLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                                                                                                                      TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGENLRIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PAOPLEFAOFPFLLRGLOKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                     AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LRWGASSSLPOSFARVITSMIVAIHPPPLPGAYIHPAPDEP 1181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Herbert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 19, Application US/08540406

Patent No. 5837538

GENERAL INFORMATION

APPLICANT: SCOTT, MATHEW P

APPLICANT: OFONSON, ROMALD L

TITLE OF INVENTION: Patched Genes and their Use

NUMBER OF SEQUENCES: 19

CORRESPONDENCE ADDRESS:

ADDRESSEE: Flehr, Hobbach, Test, Albritton & Heri

STREET: Four Embarcadero Center, Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ZIP: 94111
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: San Francisco
STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ß
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 7
US-08-540-406-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1141
                                                     481
                                                                                                                         541
                                                                                                                                                           601
                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1141
                     181
                                                                                         541
                                                                                                                                                                                           601
                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              961
```

710

704

644

544

595

18;

128 171 188

111

68

247 291 307

231

```
US-08-656-055-19
                                                                                                                                                                                                                                                              53
                                                                                                                                                                                                                                                                                       69
                                                                                                                                                                                                                                                                                                              112
                                                                                                                                                                                                                                                                                                                                                                                          189
                                                                                                                                                                                                                                                                                                                                                                                                                   232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                              유
                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                         AYPSGSPFLFWEQYLGLRRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLAMMTVEL 1003
                                                                                                                                                                                      SYPNGYPFLFWEQYIGLRHWILLFISVVLACTFLVCAVFLINPWTAGIIVMVLALMTVEL 1067
                                                                                                                                                                                                                                       FGIMGFLGIKLSAIPVVILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVT 1063
                                                                                                                                                                                                                                                                           DGAISTLLGLLMLAGSHFDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPPEVI-- 1121
                                                                                                                                                                                                                                                                                                                                                    1188 NGLNRLPTPSPEPPPSVVRFAMPPGHTHSGSDSSDSEYSSQTTVSGLSEELRHYEAQQGA 1247
                                                                                                                                                                                                                                                                                                                                                                                                      1248 GGPAHQVIVEATENPVFAHSTVVHPESRHHPPSNPRQQPHLDSGSLPPGRQGQQPRRDPP 1307
                                                                                                                                                                                                                                                                                                                                                                                                                             -----ASSSLPQSFAR 1155
                                                                                                                                                                                                                                                                                                                                                                                                                                                      1308 REGLWPPLYRPRRDAFEISTEGHSGPSNRARWGPRGARSHNPRNPASTAMGSSVPGYCQP 1367
                                     IQTGDAQEPLDFSQLTTRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPE 884
                                                                                                                        WLHDKYDTTGE-NLRIPPAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVH 943
TRVRDGLDLTDIVPRETRBYDFIAAQFKYFSFYNMYIVTQKA-DYPNIQHLLYDLHRSFS 827
                                                                                       SLKAVLPPPATQAPRTWLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Albritton & Herbert
Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 19, Application US/08656055

Batent No. 6027882
GENERAL INFORMATION
GENERAL INFORMATION
APPLICANT: SCOTT, MATHEW P
APPLICANT: JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
ADDRESSEE: Flehr, Hobbach, Test, Albritton & Her)
STREET: Four Embarcadero Center, Suite 3400
CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/656,055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VTT----SMTVAIHPPPLPGAYIHP 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             :|| :|||:|||:|||:||
1368 ITTVTASASVTVAVHPPPVPGPGRNP 1393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                             ----OMYKESPE----ILSPP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/540,406
FILING DATE:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ß
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               94111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ర
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 8
US-08-656-055-19
                                                                                                                                                                                                                                                                                                                                                                              Ġ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                          944
                                                                        825
                                                                                                                                                                                                 1008
                                                                                                                                                                                                                                                 1068
                                                                                                                                                                                                                                                                           1064
                        765
                                                                                                888
                                                                                                                        885
                                                                                                                                                 948
                                                                                                                                                                                                                          1004
                                                                                                                                                                                                                                                                                                                             1122
                                                                                                                                                                                                                                                                                                                                                                              1140
                                                                                                                                                                                                                                                                                                                                                                                                                                1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1156
                                                                                                                                                                                                                                                                                                    1128
                                                                                           g
                                                                                                                                                                                                요
                                                                                                                                                                                                                                            8
                       8 8
                                                                      ઠે
                                                                                                                       ઠ
                                                                                                                                           g
                                                                                                                                                                       δ
                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
```

```
18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  248 VGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLGGMARDPQ 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     : ||||:| | || :||| :| : ::| |:||||| ||:||||| ::|
MDRPCINPADPDCPATAPNKNSTKPLDMALVLNGGCHGLSRKYMHWQEELIVGGTVKNST 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    129 PEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKLFPCVILTP 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SLKAVLPPPATQAPRTWLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLL 824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTEALPG-- 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LLGQEBETRQKAACKSLPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGA 704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TLVODGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFS 764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LALGLRMAIIETINLEQLWVEVGSRVSQELHYTKEKLGEBAAYTSQMLIQTARQEGENILT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GELLRAEALQSTFLLMSPRQLYEHFRG-DYQTHDIGWSEEQASTVLQAWQRRFVQLAQEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGD-----GTVPVGIAH--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    651 AHETQITMQSTVQLRTEYDPHTHVYYTTAEPRSEISVQPVTVTQDTLSCQSPESTSSTRD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPF-ASLEGFRELLDKAQVGQAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTWLRWDCAQSQGSVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PSYC-DAAFALEQISKGKATGRKAPLWLRAKFQRLLFKLGCYIQKNCGKFLVVGLLIFGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              485 TPLOERMGECLORTGTSVVLTSINNMAAFLMAALVPIPALRAFSLOAAIVVGCTFVAVML
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----SDPLGSELFSPGGSTRD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PSYTPPARTAAPQILAGSL---KAPLWLRAYFQGLLFSLGCGIQRHCGKVLFLGLLAFGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels 186; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 53.4%; Score 3348; DB 3;
Best Local Similarity 49.9%; Pred. No. 1.8e-314;
Matches 672; Conservative 203; Mismatches 285;
NAME: Rowland, Dec. 20015
REGISTRATION NUMBER: 20015
REFERENCE/DOCKET NUMBER: a60190-1
TELECOMMUNICATION INFORMATION:
TELEPAX: 415-781-1989
FIELEPAX: 415-398-3249
FIELEPAX: 415-388-3249
FIELEPAX: 415-388-3249
FIELEPAX: 415-388-388
                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE: protein
```

```
1447 amino acids
SEQUENCE CHARACTERISTICS
                                   single
                                            TOPOLOGY: linear
MOLECULE TYPE: protein
          LENGTH: 1447 amin
TYPE: amino acid
STRANDEDNESS: sir
                                                                      US-08-954-668-19
                                                                                                                                                                                                                                               129
                                                                                                                                                                                                                                                                                                                                                                                                 308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 825
                                                                                                                                                                                                                                                                                                189
                                                                                                                                                                                                                                                                                                                                                248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                765
                                                                                                Query Match
                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                   원
                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                               à
                                                                                                                                                                                               ò
                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                      188 NGLNRLPTPSPEPPPSVVRFAMPPGHTHSGSDSSDSEYSSQTTVSGLSEELRHYEAQQGA 1247
                                                                                                                                                                                                                                                                                                                                                 1248 GGPAHQVIVEATENPVFAHSTVVHPESRHHPPSNPRQQPHLDSGSLPPGRQGQQPRRDPP 1307
                                                                                                                                                                                                                                                                                                                                                                         -----ASSSLPQSFAR 1155
                                                                                    WLHDKYDTTGE-NLRIPPAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVH
                                                                                                                                     FGIMGFLGIKLSAIPVVILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVT
                                                                                                                                                                                                                        DGAISTLLGLLMLAGSHFDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPPEVI--
                                                                                                                                                                                                                                                                                                                                                                                               1308 REGLWPPLYRPRRDAFEISTEGHSGPSNRARWGPRGARSHNPRNPASTAMGSSVPGYCQP
                        825 IQTGDAQEPLDFSQLTTRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPE
                                                                                                                       944 AYPSGSPFLEWEQYLGLRRCFLLAVCILLVCTFLVCALLLINPWTAGLIVLVLAMMTVEL
                                                                                                                                                                                                                                                                         -----APOGG
NVKYVMLEENKQLPKMWLHYFRDWLQGLQDAFDSDWETGKIMPNNYKNGSDDGVLAYKLL
                                                                                                                                                                                                                                                                                                                                                                         -----LRWG----
                                                                                                                                                                                                                                                                                                                                                                                                                                      ----SMTVAIHPPPLPGAYIHP 1176
                                                                                                                                                                                                                                                                          ----OMYKESPE-----ILSPP----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: ISM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII(text)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/954,668
FILING DATE: 20-Oct-1997
CLASSIPICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Vincent, Matthew P.
REGISTRATION NUMBER: 36709
REFERENCE/DOCKET NUMBER: 36709
TELECOMMUNICATION: INFORMATION:
TELEPHONE: 617-832-1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUV-003.06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: SCOTT, MATHEW P
APPLICANT: GOODRICH, LISA V
APPLICANT: JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 19, Application US/08954668
Patent No. 6172200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: Foley, Hoag & Eliot
STREET: One Post Office Square
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: 617-832-7000 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                         T.L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 9
US-08-954-668-19
                                                                                                                                                                                                 1068
                                                                                                                                                                                                                                                 1128
                                                                                                                                                                                                                                                                                                                         1140
                                                                                                                                                                        1004
                                                                                                                                                                                                                        1064
                                                                                                                                                                                                                                                                                                                                                                         1141
                                                                                                                                                                                                                                                                                                                                                                                                                          1156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE:
                                                                       885
                                                                                                                                                                                                                                                                         1122
                                                                                                                                                                                                                                                                                                                                                                                             PP
                                                                                                                                                                                           a
                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                              g
                     ò
                                              셤
                                                                      ò
                                                                                         셤
                                                                                                                       ò
                                                                                                                                             셤
                                                                                                                                                                        8
                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                         ð
```

```
128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         111
                                                                                                                                                                                                                                                                                                                                                                                                                                              171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               292 MDRPCINPADPDCPATADNKNSTKPLDMALVINGGCHGLSRKYMHWQEELIVGGTVKNST 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            885 WIHDKYDTTGE-NLRIPPAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVH 943
                                                                                                                                                                              68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |:|: | |||: | |||: ||:||||||: ||:||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        69 LALGIRMAIIETNIEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTARQEGENILT
                                                                                                                                                                                                                                                                                                                                                                                                     PEALGLHLOAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKLFPCVILTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLGGMARDPQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GELLRAEALQSTFLLMSPRQLYEHFRG-DYQTHDIGWSEEQASTVLQAWQRRFVQLAQEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                367 LPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQSQGSVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTEALPG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                485 TPLOERMGECLORIGISVVLISINNMAAFLMAALVPIPALRAFSLOAAIVVGCTFVAVML
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                545 VFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGD-----GTVPVGIAH--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----BTATVQAFTHCEASSQHVVT1LPPQAHLVPPP----SDPLGSELFSPGGSTRD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LLGQEEETRQKAACKSLPCARWNLAHFARYOFAPLLLLQSHAKAIVLVLFGALLGLSLYGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      705 TLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | |:||| |||:||| ||:||:||:||:||:|| ||:||| ||:|||:|| ||:|||:|| ||:|||:|| ||:|||:|| ||:|||:|| ||:|||:|| ||:|||:||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SLKAVLPPPATQAPRTWLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IQTGDAQEPLDFSQLTTRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPE
                                                                                                                                                                              12 PSYTPPARTAAPQILAGSL---KAPLWLRAYPQGLLFSLGCGIQRHCGKVLFLGLLAFGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPF-ASLEGFRELLDKAQVGQAY
                                                                                           186;
Length 1447;
                                             Best Local Similarity 49.9%; Pred. No. 1.8e-314;
Matches 672; Conservative 203; Mismatches 285;
    53.4%; Score 3348; DB 3; 49.9%; Pred. No. 1.8e-314;
```

248 VGRPCIAPDDIACPPSARDHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLGGMARDPQ 307 1	1006
8 6 8 6 8 6 8 6 8 6 8 6 8	6 H 6 H 6 H 6 H 6 H 6 H 6 H 6 H 6 H 6 H
	Sequence 5, Application US/09268140

704 768 764 827 824

```
FGIMGFLGIKLSAIPVVILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVT 1063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGPAHQVIVEATENPVFAHSTVVHPESRHHPPSNPRQQPHLDSGSLPPGRQGQPRRDPP 1307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1308 REGLWPPLYRPRRDAFEISTEGHSGPSNRARWGPRGARSHNPRNPASTAMGSSVPGYCQP 1367
                                                                                                484
                                                                                                                                                                                                                                                                                                                                                                                                                                                   887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WLHDKYDTTGE-NLRIPPAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVH 943
                                   LLGQEEETRQKAACKSLPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGA
                                                                                                                                                                                                                                                                                                                                                                                                                                           828 NVKYVMLEENKOLPKWMLHYFRDWLQGLQDAFDSDWETGKIMPNNYKNGSDDGVLAYKLL
                                                                                                                                                LPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQSQGSVG
                                                                                                                                   LAGVILIVALAVASGIGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTEALPG--
                                                                                                                                                                                   485 TPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFVAVML
                                                                                                                                                                                                                                  VFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGD -----GTVPVGIAH--
                                                                                                                                                                                                                                                                                 -----SDPLGSELFSPGGSTRD
                                                                                                                                                                                                                                                                                                                                                                              TLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFS
                                                                                                                                                                                                                                                                                                                                                                                                                             SLKAVLPPPATQAPRTWLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IQTGDAQEPLDFSQLTTRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         944 AYPSGSPFLFWEQYLGLRRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLAMMTVEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DGAISTLLGLLMLAGSHFDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPPEVI --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1188 NGLNRLPTPSPEPPPSVVRFAMPPGHTHSGSDSSDSEYSSQTTVSGLSEELRHYEAQQGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ----OMYKESPE----ILSPP-
                                                            352
                                                                                   367
                                                                                                                                   427
                                                                                                                                                          471
                                                                                                                                                                                                                                  545
                                                                                                                                                                                                                                                                                                                                645
                                                                                                                                                                                                                                                                                                                                                       711
                                                                                                                                                                                                                                                                                                                                                                                                     769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1248
                                                                                                                                                                                                                                                                               969
                                                                                                                                                                                                                                                                                                                                                                              705
                                                                                                                                                                                                                                                                                                                                                                                                                             165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            825
                                   Š
                                                          셤
                                                                                   8
                                                                                                      ద
                                                                                                                                   8
                                                                                                                                                          셤
                                                                                                                                                                                 ò
                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LALGLRWAIIETNLEQLWVEVGSRVSQELHYTKEKLGEBAAYTSQMLIQTARQEGENILT 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TEALLQHLDSALQASRVHVYMYNRQWKLEHLCYKSGELITETGYMDQIIEYLYPCLIITP 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               248 VGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFWHWQEELLLGGMARDPQ 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKLFPCVILTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPF-ASLEGFRELLDKAQVGQAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PSYTPPARTAAPQILAGSL----KAPLWLRAYFQGLLFSLGCGIQRHCGKVLFLGLLAFGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels 186;
                                                                                                                                                                                 Albritton & Herbert
Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1447;
                                                                                                                                                                                                                                                              Sequence 19, Application US/08918658
Patent No. 6429354
GENERAL INFORMATION:
APPLICANT: SCOTT, MATHEW P
GOOBRICH, LISA V
JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   53.4%; Score 3348; DB 4;
larity 49.9%; Pred. No. 1.8e-314;
Conservative 203; Mismatches 285;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: a60190-1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-781-1989
                                                                                                                                                                              ADDRESSEE: Flehr, Hobbach, Test,
STREET: Four Embarcadero Center,
CITY: San Francisco
STATE: CA
TOPOLOGY: linear

MOLECULE TYPE: protein

SEQUENCE DESCRIPTION: SEQ ID NO: 19:
US-08-918-658-19
                                                                                                                                                                                                                                           ZIP: 94111
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 amino acid
                                                                                                                                                                                                                                 COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 672; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR
                                                          US-08-918-658-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                189
            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

644

704

764

g

```
DGAISTLIGLIMLAGSHFDFIVRYFFAALTVLTLIGLLHGLVLLPVLLSILGPPFEVI-- 1121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1188 NGLNRLPTPSPEPPPSVVRFAMPPGHTHSGSDSSDSEYSSQTTVSGLSEELRHYEAQQGA 1247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1308 REGLWPPLYRPRRDAFEISTEGHSGPSNRARWGPRGARSHNPRNPASTAMGSSVPGYCQP 1367
                                                                                                                   470
                                                                                                                                                                             530
                                                                                                                                                                                                                                                                                                 650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          884
                             366
                                                                                      426
                                                                                                                                                                                                             544
                                                                                                                                                                                                                                                                                                                                                             710
                                                                                                                                                                                                                                                                                                                                                                                                                        768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     885 WIHDKYDTTGE-NIRIPPAQPLEFAQFPFLIRGLQKTADFVEAIEGARAACAEAGQAGVH 943
351
                                                                                                                                                 LAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTEALPG-- 484
                                                                                                       TRVRDGLDLTDIVPRETREYDFIAAQFKYFSFYNMYIVTQKA-DYPNIQHLLYDLHRSFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1004 FGIMGFLGIKLSAIPVVILVASVGIGVEFTVHVALGFLTTGGSRNLRAAHALEHTFAPVT
292 MDRPCLNPADPDCPATAPNKNSTKPLDMALVLNGGCHGLSRKYMHWQEELIVGGTVKNST
                                             SLKAVLPPPATQAPRTWLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IQTGDAQEPLDFSQLTTRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               944 AYPSGSPFLFWEQYLGLRRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLAMMTVEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGPAHQVIVEATENPVFAHSTVVHPESRHHPPSNPRQQPHLDSGSLPPGRQGQPRRDPP
                             GELLRAEALQSTFLLMSPRQLYEHFRG-DYQTHDIGWSEEQASTVLQAWQRRFVQLAQEA
                                                                                       LPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQSQGSVG
                                                                                                                                                                                                           485 TPLOERMGECLORIGISVVLTSINNMAAFLMAALVPIPALRAFSLOAAIVVGCTFVAVML
                                                                                                                                                                                                                                                                      VFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGD------GTVPVGIAH--
                                                                                                                                                                                                                                                                                                                               -----LTATVQAFTHCEASSQHVVT1LPPQAHLVPPP----SDPLGSELFSPGGSTRD
                                                                                                                                                                                                                                                                                                                                                                                          LLGQEEETRQKAACKSLPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                       TLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   : | | : | | | : | | | : | | | : | | 1393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VTT----SMTVAIHPPPLPGAYIHP 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----QMYKESPE----ILSPP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1248
                               308
                                                                                       367
                                                                                                                   411
                                                                                                                                                 427
                                                                                                                                                                               471
                                                                                                                                                                                                                                                                        545
                                                                                                                                                                                                                                                                                                                                                                                                                                                         705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1141
                                                                                                                                                                                                                                                                                                                                  596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                            ò
                                                   셤
                                                                              ઠે
                                                                                                                a
                                                                                                                                                 ⋧
                                                                                                                                                                       g
                                                                                                                                                                                                   ∂
                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                              ద
                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPF-ASLEGFRELLDKAQVGQAY 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLGGMARDPQ 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           172 TEALLQHLDSALQASRVHVYMYNRQWKLEHLCYKSGELITETGYMDQIIEYLYPCLIITP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTARQEGENILT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKLFPCVILTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12 PSYTPPARTAAPQILAGSL---KAPLWIRAYFQGILFSLGCGIQRHCGKVIFLGILAFGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels 186;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 1447;
                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                             Albritton Suite 3400
                                                                                                                   APPLICANT: SCOTT, MATHEW P
GOODRICH, LISA V
JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches 285;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            53.4%; Score 3348; DB 4; 49.9%; Pred. No. 1.8e-314;
                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION: «Unknown»
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/656,055
FILING DATE: 1996-05-31
APPLICATION NUMBER: 08/540,406
FILING DATE: «Unknown»
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
NAME: Rowland, Bertram I
REGISTRATION NUMBER: 20015
REFERENCE/DOCKET NUMBER: a60190-1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                         ADDRESSEE: Flehr, Hobbach, Test,
STREET: Four Embarcadero Center,
CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/09/724,631
FILING DATE: 28-No. 6551782-2000
                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
   1368 ITTVTASASVTVAVHPPPVPGPGRNP 1393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 19:
US-09-724-631-19
                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 1447 amino acids
                                                                       Sequence 19, Application US/09724631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: 415-781-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: 415-398-3249
                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MATION FOR SEQ ID NO: 19
SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                      ZIP: 94111
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                        STATE: CA
COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                      Patent No. 6551782
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INFORMATION FOR
                                                             US-09-724-631-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         672;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S:
Matches 672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       248
```

8 & 8

셤 Š 8 g

650 644 768

764 827 824 887 884

530

484

```
PCT-US95-13233-19; Sequence 19, Application PC/TUS9513233; Sequence 19, Application PC/TUS9513233; GENERAL INFORMATION:
APPLICANT: THE BOARD OF TRUSTEES OF TEH LELAND STANFORD JUNIOR UNIVERSITY
APPLICANT: THE BOARD OF TRUSTEES OF TEH LELAND STANFORD JUNIOR UNIVERSITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----APQGG 1139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             944 AYPSGSPFLFWEQYLGLRRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLALAMMTVEL 1003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FGIMGFLGIKLSAIPVVILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVT 1063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DGAISTLIGLIMLAGSHFDFIVRYFFAALTVLTLIGLIHGLVLLPVLLSILGPPPEVI-- 1121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             188 NGLNRLPTPSPEPPPSVVRFAMPPGHTHSGSDSSDSEYSSQTTVSGLSEELRHYEAQQGA 1247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1248 GGPAHQVIVEATENPVFAHSTVVHPESRHHPPSNPRQQPHLDSGSLPPGRQGQQPRRDPP 1307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1308 REGLWPPLYRPRRDAFEISTEGHSGPSNRARWGPRGARSHNPRNPASTAMGSSVPGYCQP 1367
885 WIHDKYDTTGE-NLRIPPAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVH 943
                                                                                                                                                                                                                                                                                                                            LLGQEEETRQKAACKSLPCARWNLAHFARYQFAPLLLLQSHAKAIVLVLFGALLGLSLYGA 704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    828 NVKYVMLEENKOLPKMMLHYFRDWLQGLQDAFDSDWETGKIMPNNYKNGSDDGVLAYKLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFVAVML
                                                                                                                                                                                         545 VFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGD-----GTVPVGIAH--
                                                                                                                                                                                                                                                            ----LTATVQAFTHCEASSQHVVT1LPPQAHLVPPP----SDPLGSELFSPGGSTRD
                                                                                                                                                                                                                                                                                                                                                                                                TLVQDGLALTDVVPRGTXEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHORFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SLKAVLPPPATQAPRTWLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IOTGDAQEPLDFSQLTTRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1140 G------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1156 VTT----SMTVAIHPPPLPGAYIHP 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ----QMYKESPE-----ILSPP----
                                                                                   471
                                                                                                                       485
                                                                                                                                                                                                                                                                                                                                                              711
                                                                                                                                                                                                                                                                                                                                                                                                705
                                                                                                                                                                                                                                                                                                                                                                                                                                  169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1141
                                                   427
                                                                                                                                                                                                                                                            969
                                                                                                                                                                                                                                                                                                                                645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  765
                                                 8
                                                                                 셤
                                                                                                                     8
                                                                                                                                                 ď
                                                                                                                                                                                         ò
                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                         원
                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTARQEGENILT 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GELLRAEALQSTFLLMSPRQLYEHFRG-DYQTHDIGWSEEQASTVLQAWQRRFVQLAQEA 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFWHWQEELLLGGMARDPQ 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           367 LPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQSQGSVG 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PSYC-DAAFALEQISKGKATGRKAPLWLRAKFORLLFKLGCYIOKNCGKFLVVGLLIFGA 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        172 TEALLOHLDSALQASRVHVYMYNRQWKLEHLCYKSGELITETGYMDQIIEYLYPCLIITP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKLFPCVILTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPF-ASLEGFRELLDKAQVGQAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PSYTPPARTAAPQILAGSL---KAPLWLRAYFQGLLFSLGCGIQRHCGKVLFLGLLAFGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels 186;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1447;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           53.4%; Score 3348; DB 4;
49.9%; Pred. No. 1.8e-314;
tive 203; Mismatches 285;
                                                                                                                APPLICANT: SCOTT, MATHEW P
APPLICANT: GOODRICH, LISA V
APPLICANT: GOODRICH, LISA V
APPLICANT: JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and th
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
ADDRESSEE: Foley, Hoag & Eliot
STREET: One Post Office Square
CITY: Boston
                                                                                                                                                                                                                                                                                                       ZIP: 02109
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM CC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII(text)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/954,701A
FILING DATE: 20-OCT-1997
CLASSIFICATION: 435
                                                                 Sequence 19, Application US/08954701A
Patent No. 6610507
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: Vincent, Matthew P.
REGISTRATION NUMBER: 36709
REFERENCE/DOCKET NUMBER: SUV-
TELECOMMUNICATION INFORMATION:
TELEFRAM: 617-832-1000
TELEFRAX: 617-832-1000
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1447 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         , MOLECULE TYPE: protein US-08-954-701A-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                              USA
                                RESULT 13
US-08-954-701A-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           672;
                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
```

ઠે

ò

8

ò

```
944 AYPSGSPFLFWEQYLGLRRCFLLAVCILLVCTFLVCALLLLLNPWTAGLIVLVLAMMTVEL 1003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FGIMGFLGIKLSAIPVVILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVT 1063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DGAISTLIGLIMIAGSHFDFIVRYFFAALTVLTLIGLIHGLVLLPVLLSILGPPFEVI-- 1121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----APOGG 1139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1188 NGINRLPTPSPEPPPSVVRFAMPPGHTHSGSDSSDSEYSSQTTVSGLSEELRHYEAQQGA 1247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REGLWPPLYRPRDAFEISTEGHSGPSNRARWGPRGARSHNPRNPASTAMGSSVPGYCQP 1367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGPAHQVIVEATENPVFAHSTVVHPESRHHPPSNPRQQPHLDSGSLPPGRQGQQPRRDPP 1307
                                                                                                                                                                                                                                                                                                                                                                  WLHDKYDTTGE-NLRIPPAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVH 943
                                                          LLGQEEETRQKAACKSLPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGA 704
                                                                                                                                                                               825 IQTGDAQEPLDFSQLTTRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPE
                                                                                                                             651 AHETQITMQSTVQLRİEYDPHTHVYYİTARPRSEISVQPVTVTQDTLSCQSPESTSSTRD
                                                                                                                                                                                                                          TLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFS
                                                                                                                                                                                                                                                                                    ----LTAIVQAFIHCEASSQHVVIILPPQAHLVPPP----SDPLGSELFSPGGSTRD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 10, Application US/08540406
Fatent No. 5837538
GENERAL INFORMATION:
APPLICANT: SCOTT, MATHEW P
TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
ADDRESSEE: Flehr, Hohbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
CITY: San Francisco
STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ------LRWG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1156 VTT----SMTVAIHPPPLPGAYIHP 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----QMYKESPE----ILSPP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ·-----9
                                                                                                                                                                 645
                                                                                                                                                                                             711
                                                                                                                                                                                                                           705
                                                                                                                                                                                                                                                          169
                                                                                                                                                                                                                                                                                        292
                                                                                                                                                                                                                                                                                                                    828
                                                                                                                                                                                                                                                                                                                                                                                                                885
                                                                                                                                                                                                                                                                                                                                                                                                                                            948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                     969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                a
                                                                                                   à
                                                                                                                             셤
                                                                                                                                                               ò
                                                                                                                                                                                          용
                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                               용
                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                        음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GELLRAEALQSTFLLMSPRQLYEHFRG-DYQTHDIGWSEEQASTVLQAWQRRFVQLAQEA 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQSQGSVG 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           69 LALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTARQEGENILT 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKLFPCVILTP 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPF-ASLEGFRELLDKAQVGQAY 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLGGMARDPQ 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTEALPG-- 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TPLQERMGECLORIGISVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFVAVML 544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PSYTPPARTAAPQILAGSL---KAPLWLRAYFQGLLFSLGCGIQRHCGKVLFLGLLAFGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 53.4%; Score 3348; DB 5; Length 1447; Best Local Similarity 49.9%; Pred. No. 1.8e-314; Matches 672; Conservative 203; Mismatches 285; Indels 186;
                                                                                                                                                                                                                       SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/13233 FILING DATE: 06-OCT-1990 CLASSIPICATION:
                            Patched Genes and their Use
                                                                        Albritton
Suite 3400
TITLE OF INVENTION: Patched Genes an NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
ADDRESSE: Flehr, Hobbach, Test, AL STREET: Four Embarcadero Center, Sucrity: San Francisco
                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
NAME: Rowland, Bertram I
REGISTRATION NUMBER: 20015
TELECOMMUNICATION INFORMATION:
TELECHONE: 415-781-1989
                                                                                                                                                                                            COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                           TELEPAX: 415-398-5245
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
LENGTH: 1447 amino acids
                                                                                                                                                                                 MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE: protein
                                                                                                                                                               COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRANDEDNESS:
                                                                                                                                                   94111
                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  232
```

셤

ઠે

g

ð

g

8

ద

ઠે

셤 કે g ò 셤 ઠે g ઠે

ò

884

887

824

768

764

```
completed: June 14, 2005, 16:15:37 te : 40 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1195 SRGPG 1199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ---PG 1282
                                                                                                                                                                                                                        754
                                                                                                                                                                                                                                                                                                                                                                                                           874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1281
                                                                                                                                                                                                                                                                                                                 814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Search co
                                ò
                                                                               엄
                                                                                                                                 δ
                                                                                                                                                                         g
                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      윤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WDCAQSQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLA 475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTVPVGIAH------LTATVQAFTHCEASSQHVVTILPPQAHLVPPP----SDPLGS 633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TARQEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMI 1777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LLLGGMARDPQGELLRAEALQSTFLLMSPRQLYEHFRG-DYQTHDIGWSEEQASTVLQAW 355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QRRFVQLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLR 415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HAFTEALPG--TPLOERMGECLORIGISVVLTSINNWAAFLWAALVPIPALRAFSLOAAI 533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                58 VLFLGLLAFGALALGLRMAIIETNIEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQ 117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RAAPDRDYLHRPSYC-DAAFALEQISKGKATGRKAPLWLRAKFORLLFKLGCY1OKNCGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EKLFPCVILTPLDCFWEGAKLOGGSAYLPGRPDIQWTNLDPEQLLEELGPF-ASLEGFRE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VVGCTFVAVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGD-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3 RSPPLREL--PPSYTPPARTAAPQILAGSL---KAPLWLRAYFQGLLFSLGCGIQRHCGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LLDKAQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 1434;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 53.2%; Score 3337; DB 2; Length 1. Best Local Similarity 53.1%; Pred. No. 2e-313; Matches 672; Conservative 206; Mismatches 309; Indels
                                                                                                                          SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/540,406 FILING DATE: 06-OCT-1995 CLASSIFICATION: 435
                                                                                                                                                                                                                                    ATTORNEY REAL INFORMATION:
NAME: ROWLAND, BELTAM
NAME: ROWLAND, BELTAM
REGISTATION NUMBER: 2015
REFERENCE/DOCKET NUMBER: a60190-1
FELECOMMUNICATION INFORMATION:
TELEPHONE: 415-781-1989
TELEPHONE: 415-781-1989
TELEPHONE: 415-781-1989
TELEPHONE: 415-781-1989
TELEPHONE: 415-781-1089
TELEPHONE: 41
                                                               MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: protein
                                       COMPUTER READABLE FORM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-540-406-10
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            品 名 品 谷
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠ
```

```
1220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       983 ICNNYTSLGLSSYPNGYPFLFWEQYISLRHWLLLSISVVLACTFLVCAVFLLNPWTAGII 1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VLVLAMMTVELFGIMGFLGIKLSAIPVVILVASVGIGVEFTVHVALGFLTTQGSRNLRAA 1052
                                                                                                                                                    753
                                                                                                                                                                                                        802
                                                                                                                                                                                                                                                           813
                                                                                                                                                                                                                                                                                                                                                               873
                                                                                                                                                                                                                                                                                                                                                                                          923 SQANIRPHRPEWVHDKADYMPETRLRIPAAEPIEYAQFPFYLNGLRDTSDFVEAIEKVRV 982
526 SPPPPYTSHSFAHETHITMQSTVQLRTEYDPHTHVYYTTAEPRSEISVQPVTVTQDNLSC 685
                                                                                                                                                                               SQANFYPPPPEWLHDKYDTTGE-NLRIPPAQPLEFAQFPFLLRGLQKTADFVEAIEGARA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1103 LALEHMFAPVLDGAVSTLLGVLMLAGSEFDFIVRYFFAVLAILITVLGVLNGLVLLPVLLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1113 ILGPPPEVI-----OMYKESPEILSPP----APQGGGLRWGASSLPQSFARVTTS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      634 ELFSPGGSTRDLLGQEEETRQKAACKSLPCARWNLAHFARYQFAPLLLQSHAKAIVLVLF
                                                                                 686 QSPESTSSTRDLLSQFSDS--SLHCLEPPCTKWTLSSFAEKHYAPFLLKPKAKVVVILLF
                                                                                                                                                       694 GALLGLSLYGATLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQ
                                                                                                                                                                                                                                                           RALFDLHQRFSSLKAVLPPPATQAPRTWLHYYRNWLQGIQAAFDQDWASGRITRHSYRNG
                                                                                                                                                                                                                                                                                                                                                            SEDGALAYKLLIQTGDAQEPLDFSQLTTRKLVDREGLIPPELFYMGLTVWVSSDPLGLAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       933 ACAEAGQAGVHAYPSGSPFLFWEQYLGLRRCFLLAVCILLVCTFLVCALLLLNPWTAGLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1053 HALEHTFAPVTDGAISTLLGLLMLAGSHFDFIVRYFFAALTVLTLLGLLHGLVLLPVLLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----MIVAIHPPPLPGAYIHP-APDEPPWSPAA---TSSGNLS
```

```
Appl
Appli
Appli
Appli
Appli
Appli
A Appli
4, Appli
4, Appli
4, Appli
4, Appli
4, Appli
4, Appli
6, Appli
6, Appli
7, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16571, A
37985, A
37985, A
20823, A
73, Appl
2, Appli
2, Appli
19, Appli
19, Appli
2, Appli
19, Appli
2, Appli
3, Appli
3, Appli
6, Appli
6, Appli
7, Appli
7, Appli
7, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11260, A
23628, A
9, Appli
5194592
3, Appli
3, Appli
17, Appli
                                                                                                                                                          41607, A
41511, A
6, Appli
6, Appli
6, Appli
6, Appli
6, Appli
6, Appli
6, Appli
6, Appli
6, Appli
6, Appli
6, Appli
6, Appli
6, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Appli
Appli
Appli
Appli
Appli
Appli
Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 4 Sequence 4 Sequence 4 Sequence 3 Sequence 2 Sequence 2 Sequence 2 Sequence 2 Sequence 1 Sequence 2 Sequence 2 Sequence 3 Sequence 3 Sequence 3 Sequence 3 Sequence 3 Sequence 4 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 Sequence 6 
                           Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Seq
                                                                                                                                                                                                                                                                                                                       Sequence (Sequence (Sequence (
                                                                                                                                                                                                                                                                                                                                                                               Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence Sequence Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
         US-09-724-631-11
US-08-55-05-8
US-08-55-05-8
US-08-55-05-8
US-08-55-05-8
US-08-55-05-8
US-08-55-05-8
US-08-55-05-8
US-08-55-05-8
US-08-55-05-8
US-08-55-05-8
US-09-274-631-8
US-09-274-631-8
US-09-274-631-8
US-09-274-631-8
US-09-274-631-8
US-09-274-631-8
US-09-274-631-8
US-09-274-631-6
US-08-540-406-6
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-9
US-08-540-406-4
US-08-540-406-4
US-08-540-406-4
US-08-540-406-4
US-08-540-406-4
US-08-540-406-4
US-08-540-406-4
US-08-540-406-4
US-08-540-406-4
US-08-540-406-4
US-08-540-406-4
US-08-540-406-4
US-08-540-406-4
US-08-640-406-4
U
                                                      420
531
531
548
548
979
979
1003
 \phi
; Search time 46 Seconds
(without alignments)
1952.235 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                      US-09-990-046A-2
1203
Î^MTRSPPLRELPPSYTPPART.....SPAATSSGNLSSRGPGPATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                       GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-293-505-2
US-09-209-508-2
US-09-207-857-2
US-09-209-857-2
US-09-209-857-2
US-09-209-857-4
US-09-208-95-7
US-08-857-66-10
US-08-954-06-10
US-08-954-701A-10
US-08-954-701A-10
US-08-954-701A-10
US-08-954-701A-10
US-08-954-701A-10
US-08-954-701A-10
US-08-954-701A-10
US-08-954-701A-10
US-08-954-701A-10
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
US-08-954-701A-19
                                                                                                                                                                                                                                                                                                                    Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                           513545 segs, 74649064 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Listing first 100 summaries
                                                                    - protein search, using sw model
                                                                                                                                                                                                                  OLIGO
Gapop 60.0 , Gapext 60.0
                                                                                                June 16, 2005, 07:58:06
                                                                                                                                                                                                                                                                                                                                               Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query
Match Length
                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Title:
Perfect score:
                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score
                                                                    OM protein
                                                                                                                                                                                                                                                                                        Word size
                                                                                                                                                                                        Sequence:
                                                                                                                                                                                                                                                           Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                          Database
                                                                                                Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Result
No.
```

```
RRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLAMMTVELFGIMGFLGIKLSAIPVV 1020
                                                                                                                                                                                                                                                                                                                                          ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                        FDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPPEVIOMYKESPEILSPPAPQGGG 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1081 FDFIVRYFFAALITVLTLIGLLHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1141 LRWGASSSLPQSFARVTTSMTVAIHPPPLPGAYIHPAPDEPPWSPAATSGGNLSSRGPGP 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT 780
                                                                                                                                                 PAQPLEFAQFPFILRGLQXTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL 960
                                                                                                                                                                                                                                                                                                                                                                                                            1021 ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH
                TRKLVDREGLI PPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGENLRI P
                                                                                                                                                                                                                                                                               LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG
                                                                                                                              WLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A. Carpenter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: South San Francisco
STATE: California
COUNTY: USA
ZIE: 94080
COMPUTER READABLE FORM:
COMPUTER: IRW PC COMPAIDLE
COMPUTER: IRW PC COMPAIDLE
COMPUTER: MinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/060,939A
FILING DATE: 15-Apr-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Frederic de Sauvage, David
TITLE OF INVENTION: Patched-2
NUMBER OF SEQUENCES: 32
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              39,044
R: P1405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 2, Application US/09060939A Patent No. 6709838 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: SYODOGA, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1405
TELECHOMINICATION INFORMATION:
TELEPHONE: 650/255-1489
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1201 ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-060-939A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                           1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1141
                                                                                                                                                                                                                                                                                                                                                                                           1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1201
                              661
                                                                721
                                                                                              721
                                                                                                                              781
                                                                                                                                                                                              841
                                                                                                                                                                                                                                                                                                                             961
   661
                                                                                                                                                                                                                                                              901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 2
                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                      용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       윤
                                                              ò
                                                                                           g
                                                                                                                                                      g
                                                                                                                                                                                       ò
                                                                                                                                                                                                                         요
                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                           원
                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                     g
                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QAFTHCEASSQHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241 AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GMARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181 FPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWINLDPEQLLEELGPFASLEGFRELLDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GMARDPQGELLRAEALQSTF1LMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ALPGTPLOERMGECLORTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LGLLAFGALALGLRMAI IETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241 AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481 ALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
0
                                                                                                                                                                                                                                                                                                                                                                                                              DB 3; Length 1203;
                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 1203;
100.0%; Pred. No. 0;
iive 0; Mismatches
                                                                                                     Sequence 2, Application US/09293505
; Betent No. 6348575
; GENERAL INFORMATION:
APPLICANT: de Sauvage, Frederic
; APPLICANT: Carpenter, David A.
TITLE OF INVENTION: Patched-2
FILE REFERENCE: P.405R1
CURRENT APPLICATION NUMBER: US/09/293,505
; CURRENT FILING DATE: 1999-04-15
; CURRENT FILING DATE: 1999-04-15
; RARLIER APPLICATION NUMBER: US 60/081,884
; BARLIER FILING DATE: 1998-04-15
; NUMBER OF SEQ ID NOS: 32
; SEQ ID NO 2.
                                 ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 100.
Matches 1203; Conservative
                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                               1203
                                                                                                -09-293-505-2
                                                                                                                                                                                                                                                                                                                                                                  ; ORGANISM: H
US-09-293-505-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
```

900

1200 1200

1080

```
LGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEBAAYTSQMLIQTAR 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 LGLLAFGALALGLRWAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GMARDPOGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PDFIVRXFFRALTVLTLGLLHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG
                         FDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPEVIQMYKESPEILSPPAPQGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MIRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                         GENES AND PROTEINS, AND USES RELATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 3; Length 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         74.8%; Score 900; DB
99.8%; Pred. No. 0;
tive 0; Mismatches
                                                                                                                                                                                                                                                                       | Sequence 2, Application US/09207857
| Patent No. 6309879
| GENERAL INFORMATION:
| APPLICANT: BUMCTOFL, David A.
| TITLE OF INVENTION: THERETO
| TITLE OF INVENTION: THERETO
| TITLE OF INVENTION: THERETO
| FILE REFERENCE: ONV-05001
| CURRENT APPLICATION NUMBER: US/09/207,857
| CURRENT PILING DATE: 1998-12-08
| NUMBER OF SEQ ID NOS: 6
| SEQ ID NO 2
| LENGTH: 1203
| TYPE: PRT
| CURRANTER OF SEQ ID NOS: 6
| SEQ ID NO 2
| LENGTH: 1203
| TYPE: PRT
| US-09-207-857-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 99.8
Matches 1200; Conservative
                                                                                                                                                                                              ATG 1203
                                                                                                                                                                                                                     ATG 1203
                                                                                                                                                                                                                                                                  US-09-207-857-2
                                  961
                                                                                                                                                                                                                     1201
                                                         1021
                                                                               1021
                                                                                                     1081
                                                                                                                          1081
                                                                                                                                                  1141
                                                                                                                                                                       1141
                                                                                                                                                                                              1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
             196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                            셤
                                                       à
                                                                       윤
                                                                                            ò
                                                                                                                    g
                                                                                                                                                 8
                                                                                                                                                                  g
                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                             120
                                                                                                                                                                      180
                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                 GMARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV 360
                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             099
                                                                                                                                                                                                                    QEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWNIEKL 180
                                                                                                                                                                                                                                                                                                  AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHBLSGGCHGFSHKFMHWQBBLLLLG 300
                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   960
                                                                                                                                    9
                                                                                                                                                                                                                                                                                                              AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG
                                                                                                                          QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                     661 LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             I.GLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR
                                                                                                                                                                                                        QEGENILIPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL
                                                                                                                                                                                                                                                    181 FPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK
                                                                                                                                                                                                                                                                                                                                                         ALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481 ALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AVMLVFPA LLSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVQIAHLTATV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QAFTHCEASSOHVVILLPPQAHLVPPPSDPLGSELFSPCGSTRDLLGQEEETRQKAACKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PAQPLEFAQFPETLRGLQKTADFVEA1EGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                               MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                          Gaps
                                                                                         ;
                                                                   Length 1203;
                                                                                         Indels
                                                                   DB 4;
                                                                                        ;
0
                                                                 Query Match 100.0%; Score 1203; Best Local Similarity 100.0%; Pred. No. 0; Matches 1203; Conservative 0; Mismatches
          : 1203 amino acids
Amino Acid
3Y: Linear
SEQUENCE CHARACTERISTICS
 ; SEQUENCE CHAR; LENGTH: 12; TYPEN Amin; TOPOLOGY: US-09-060-939A-2
                                                                                                                                    н
                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                 61
                                                                                                                                                          61
                                                                                                                                                                                                        121
                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   901
                                                                                                                                   g
                                                                                                              ò
                                                                                                                                                                           g
                                                                                                                                                         ò
                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                      쉱
                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                d
                                                                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                        엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ℰ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
```

ö

9

240

ô

120 120 180 180

9

```
PPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK 240
                                                                                                                                                                                                                                                                                                                                                              GWARDPQGELIRAEALQSTFILMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV 360
                                                                                                                                                                                                                                                                                                                                                                                                                            AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEBLLLG 300
                                                                                                                                                                                                                                   AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGENLRIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PAQPLEFAQFPFLLRGLQKTADFVEA1EGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                      QEGENILIPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                         SQGSVGLAGYLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ALPGTPLQERMGECLQRTGTSVVLTSINNWAAFLWAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QAFTHCEASSQHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATIVQDGLALTDVVPRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TKEHAFLSAQLRYFSLYBVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WIHYYRNWIQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPFEWLHDKYDTTGENLRIP
                                                                                                                                                                         LGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEBAAYTSQMLIQTAR
                                                                                                                                                                                                                                                                                                                                                                                                             QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                                                                                       MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                      ö
                                                                               DB 4; Length 1203;
                                                                                                      3; Indels
                                                                              Score 900; DB; Pred. No. 0; 0; Mismatches
                                                                               Query Match
Best Local Similarity 99.8%;
Matches 1200; Conservative
5.0
PatentIn Ver.
                                               sapiens
                                             , ORGANISM: Homo
US-09-909-280A-2
           EQ ID NO 2
LENGTH: 1203
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    841
                                                                                                                                                                            61
                                                                                                                                                                                                 61
                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
 SOFTWARE:
SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                               d
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8 b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 장염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            \dot{\delta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                  g
                                                                                                                                                                                             g
                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                  P &
                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                               ò
                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                  1020
                                                                                                                                                                                                                                                                                                                                                                                                                          RRCFLLAVCILLYCTFLVCALLLINPWTAGLIVLVLANMTVELFGIMGFLGIKLSAIPVV 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LRWGASSSLPQSFARVTTSMTVAIHPPPLPGAYIHPAPDEPPWSPAATSSGNLSSRGPGP 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                              960
                                                                                                                                                                                                                                                                                                                                                                                                     960
                       480
                                               540
                                                                                           009
                                                                                                                 600
                                                                                                                                          099
                                                                                                                                                                99
                                                                                                                                                                                       720
                                                                                                                                                                                                             720
                                                                                                                                                                                                                                                           780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG
                                                                                                                                                                                                   PAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                                                                                                                                                                                                                                                                          RRCFLLAVCILLVCTFLVCALLLINPWAGLIVLVLAMMTVELFGIMGFLGIKLSAIPVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG
            SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE
                                             ALPGTPLOERMGECLORTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                          ALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                          QAFTHCEASSQHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS
                                                                                                                                                                                        LPCARWNLAHFARYOFAPLLLOSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG
                                                                                                                                                                                                                                                  WLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                 WLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                  TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGENLRIP
                                                                                                                                                                                                                                                                                                                                              TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGENLRIP
                                                                                                                                                                                                                                                                                                                                                                                             PAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLIMLAGSH
                                                                                                                                          QAFTHCEASSQHVVTILPPQAHLVPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS
                                                                                                                                                                                                                                     TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                            AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROTEINS, AND USES RELATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 4
US-09-909-280A-2

Sequence 2, Application US/09909280A

Patent No. 6605700

GENERAL INFORMATION:

APPLICANT: BUMCroft, David A.

ITLE OF INVENTION: THERETO

TITLE OF INVENTION: THERETO

CURRENT FILING DATE: 2001-07-19

PRIOR APPLICATION NUMBER: US/09/909, 280A

CURRENT FILING DATE: 2001-07-19

PRIOR FILING DATE: 1998-12-08

PRIOR FILING DATE: 1998-12-08

PRIOR FILING DATE: 1997-12-08

NUMBER OF SEQ ID NOS: 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1201
                                                                                              541
                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                                                                                                              196
                                                                                                                                                                                                                                                                                                                                                                                                                                                   961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1081
                        421
                                               481
                                                                      481
                                                                                                                    541
                                                                                                                                           601
                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                                                                                                                                       901
                                                                                                                                                                                         661
                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            엄
                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                8 8
                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                    요
                                              ò
                                                                  셤
                                                                                            ò
                                                                                                               Op
                                                                                                                                      8
                                                                                                                                                              g
                                                                                                                                                                                       ò
                                                                                                                                                                                                        g
                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                         유
                                                                                                                                                                                                                                                                              ò
```

420

300

480

540 540 600 009 99 099 960

900 900

840 840

780 780

720

ઠે 셤 8 ŝ g δ

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      752
   361 IPPELFYMGLTVWVSSDPLGLAASQANFYPPPFEWLHDKYDTTGENLRIPPAQPLEFAQF 420
                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1182;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 94; DB 3; L
Pred. No. 1.8e-79;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                753 ORALFDIHORFSSIKAVLPPPATOAPRTWLHYYR 786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE: Genemon STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy dis COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: WinPatin (Genetech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/060,939A
FILING DATE: 15-APR-1998
TILING DATE: 15-APR-1998
TILING DATE: 15-APR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7.8%; Sco. 100.0%; Pred. No. 100.0%; Pred. No. 100.0%; Pred. No. 100.00%; Pred. No. 100.0
                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 7, Application US/09293505
Fatent No. 6348575
GENERAL INFORMATION:
APPLICANT de Sauvage, Frederic
APPLICANT Carpenter, David A.
TITLE OF INVENTION: Patched-2
FILE REFERENCE: 14405R1
CURRENT APPLICATION NUMBER: US/09/293,505
CURRENT PILING DATE: 1999-04-15
FARLIER APPLICATION NUMBER: US 60/081,884
FARLIER PILING DATE: 1999-04-15
NUMBER OF SEQ ID NOS: 32
SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 7, Application US/09060939A; Patent No. 6709838; GENERAL INFORMATION: APPLICANT: Frederic de Sauvage, Dar TITLE OF INVENTION: Patched-2; NUMBER OF SEQUENCES: 32 CORRESPONDENCES: ADDRESSE: Genentech, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P140:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                            481 LLVCTFLVCALLLLNPW 497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       94; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT ORGANISM: Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 94; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -09-060-939A-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-293-505-7
                                                                                                                                                                                                     971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             753
                                                                                                                        유
                                                                   ò
                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                               1021 ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLIGLLMLAGSH 1080
                                                                                                                                                                                                                                                                                                                                                                            1081 FDFIVRYFFAALTVLTLGLLHGLVLLDVLLSILGPPEVIQMYKESPEILSPPAPQGGG 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1141 LRWGASSSLPQSFARVTTSMTVAIHPPPLPGAYIHPAPDEPPWSPAATSGGNLSSRGPGP 1200
                                                                                                                                                                                                                                                                                                                                     1081 FDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1141 LRWGASSSLPQSFARVTTSMTVAIHPPPLPGAYIHPAPDEPPWSPAATSSGNLSSRGPGP 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181 PARYQFAPLILQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRGTKEHAFLSAQ 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLTTRKLVDREGL 360
901 PAQPLEFAQFPFLLRGLQXTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL 960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               491 MGECLORIGISVVLISINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFVAVMLVFPAIL 550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKSLPCARWNLAH 670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRGTKEHAFLSAQ 730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRTWLHYYRNWLQ 790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 LRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRTWLHYYRNWLQ 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLTTRKLVDREGL 850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGENLRIPPAQPLEFAQF
                                                                                                                                                                                                  1021 ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MGECLQRIGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFVAVMLVFPAIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  551 SLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATVQAFTHCEASS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 SLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATVQAFTHCEASS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 3; Length 529;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 41.3%; Score 497; DB Best Local Similarity 100.0%; Pred. No. 0; Matches 497; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 2, Application US/09500063
Patent No. 6153092
GENERAL INFORMATION:
APPLICANT: David P. Kelsell
APPLICANT: Michael R. Barnes
APPLICANT: Michael R. Barnes
APPLICANT: Tania Tamson Testa
APPLICANT: Tania Tamson Testa
TILE OF INVENTION: NOVEL COMPOUNDS
FILE REFERENCE: GH-30311-D1
CURRENT APPLICATION NUMBER: US/09/500,063
CURRENT FILING DATE: 2000-02-08
NUMBER OF SEQ ID NOS: 4
SOFTWARE: FastSEQ for Windows Version 3.0
SERGITH: 529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: HOMO SAPIENS
US-09-500-063-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1201 ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ArG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 5
US-09-500-063-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              851
                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
```

ò g ઠે d ò 셤 ò ઠે

ð 요 ò 요

```
Gaps
       APPLICANT: Wainwright, Brandon
APPLICANT: Tofegard, Rune Carl-Magnus
APPLICANT: Tofegard, Rune Carl-Magnus
APPLICANT: Chenevix-Trench, Georgia
APPLICANT: Bale, Allen E.
TITLE OF INVENTION: A Basal Cell Carcinoma Tumor Suppressor Gene
NUMBER OF SEQUENCES: 83
CORRESPONDENCE ADDRESS:
ADDRESSE: Two masend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1.2%; Score 15; DB 4; Length 1296;
100.0%; Pred. No. 5.9e-05;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note= "amino acids encoded by human
nevoid basal cell carcinoma syndrome
(NBCCS) (PATCHED (PTC)) cDNA"
                                                                                                                                                                                                                                                                                                                                                                                                      OPERATION SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/857,636
FILING DATE: 16-MAY-1997
CLASSIFICATION 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/017,906
FILING APPLICATION DATA:
APPLICATION NUMBER: US 60/017,906
PRIOR APPLICATION NUMBER: AU PO0011
FILING DATE: 17-MAY-1996
PRIOR APPLICATION NUMBER: AU PO0363
FILING APPLICATION NUMBER: AU PO0363
FILING APPLICATION NUMBER: US 60/019,765
FILING APPLICATION NUMBER: US 60/019,765
FILING APPLICATION NUMBER: US 60/019,765
ATTONENEY/AGENT INFORMATION:
NAME: HARFA TOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Hunter, Tom
REGISTRATION NUMBER: 38,498
REPERENCE/DOCKET NUMBER: 015280-278200US
TELECOMMUNICATION INPORMATION:
TELEPHONE: (415) 576-0300
INFORMATION FOR SEQ ID NO: 60: SEQUENCE CHARACTERISTICS:
LENGTH: 1296 amino acids
                                                                                                                                                                                                                                                                      COUNTRY: USA
ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 10, Application US/08540406; Patent No. 5837538; GENERAL INFORMATION: APPLICANT: SCOTT, MATHEW PAPPLICANT: GOODRICH, LISA V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     344 FNAATTOVLPFLALG 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 1.25
Best Local Similarity 100.0
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: Protein
LOCATION: 1..1296
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRANDEDNESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-540-406-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-857-636-60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                693 FGALLGLSLYGATLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHS 752
                                                                                                                                                                                                                                                                                                     693 FGALLGLSLYGATLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHS 752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                          0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                       Length 1182;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 3.6%; Score 43; DB 3; Length 46; Best Local Similarity 100.0%; Pred. No. 1.2e-32; Matches 43; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           488 QERMGECLORIGISVVLTSINNMAAFLMAALVPIPALRAFSLQ 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4 QERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQ 46
                                                                                                                                                                                                          Query Match 7.8%; Score 94; DB 4; I
Best Local Similarity 100.0%; Pred. No. 1.8e-79;
Matches 94; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                 753 QRALFDLHQRFSSLKAVLPPPATQAPRTWLHYYR 786
                                                                                                                                                                                                                                                                                                                                                                                                                         753 QRALFDLHQRFSSLKAVLPPPATQAPRTWLHYYR 786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-500-063-4
; Sequence 4, Application US/09500063
; Sequence 4, Application US/09500063
; Patent No. 6353092
; GENERAL INFORMATION:
; APPLICANT: David P. Ralsell
; APPLICANT: Tania Tamson Testa
; TITLE REPRENCE: GH-3031-D1
; CURRENT APPLICATION NUMBER: US/09/500,063
; CURRENT FILIAGA DATE: 2000-02-08
; NUMBER OF ENCY INCOME.
; SEQ ID NOS: 4
; SOFTWARE: FREESEQ for Windows Version 3.0
; FERSON.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Michael Carlton
Hahn, Heidi Eve
Wacking, Carol
Wacking, Carol
Wacking, Carol
Christiansen, Jeffrey
Zaphiropoulos, Peter G.
Gallani, Mae R.
Gallani, Mae R.
Shanley, Susan Mary
Chidambaram, Abirami,
Vorechovsky, Igor
Worechovsky, Igor
Worechovsky, Igor
Wanner, Jeffrey
Gallies, Susan Alana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 60, Application US/08857636
Patent No. 6552181
GBNERATION:
APPLICANT: Dean, Michael Carlton
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pressman, Carol Leah
Leffell, David J.
Gerrard, Bernard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Negus, Kylie
Smyth, Ian Mcleod
TELEPHONE: 650/225-1489
TELEFAX: 650/925-9881
INFORMATION FOR SEQ ID NO: 7:
SEQUENCE CHARACTERISTICS:
                                                                                         1: 1182 amino acids
Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: HOMO SAPIENS
                                                                                                                   ; TYPE: Ami.; TOPOLOGY:
US-09-060-939A-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 9
US-08-857-636-60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-500-063-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                             LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT
```

ઠે g

ö

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 1.2%; Score 15; DB 3; Length 1434; Best Local Similarity 100.0%; Pred. No. 6.5e-05; Matches 15; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                        Length 1434;
                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 1.2%; Score 15; DB 3; Lv
Best Local Similarity 100.0%; Pred. No. 6.5e-05;
Matches 15; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CITY: BOSTON
STATE: MA
COUNTRY: USA
ZIP: 02109
COMPUTER READABLE FORM:
MEDLUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII (text)
CURRENT APPLICATION NUMBER: US/08/954,668
FILING DATE: 20-Oct-1997
CLASSIFICATION TOWNER: WS/08/954,668
FILING DATE: 20-Oct-1997
CLASSIFICATION NUMBER: S30
ATTORNEY/AGENT INFORMATION:
NAME: Vincent, Matthew P.
REFERENCE/DOCKET NUMBER: SUV-003.06
TELEFORMINICATION INFORMATION:
TELEFORMUNICATION INFORMATION:
TELEFORMUNICATION INFORMATION:
TELEFORMUNICATION OF SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
LENGTH: 1434 amino acids
                                                                 a60190-1
                       NAME: ROWLAND, BETTEM I
REGISTRATION NUMBER: 20015
REFERENCE/DOCKET NUMBER: a601
TELEPHONE: 415-781-189
TELEFAX: 415-398-3249
INPORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
LENGTH: 143 amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
                                                                                                                                                                                                                                                                                                                                                                               451 FNAATTOVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    451 FNAATTOVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                   481 FNAATTOVLPFLALG 495
         ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                              TOPOLOGY: linear

MOLECULE TYPE: protein

US-08-656-055-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.2%; Score 15; DB 2; Length 1434;
100.0%; Pred. No. 6.5e-05;
tive 0; Mismatches 0; Indels
APPLICANT: JOHNSON, RONALD L.
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCES:
ADDRESSEE: Flehr, Hobbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
CITY: San Francisco
                                                                                                                                                         COUNTRY: US
ZIP: 94111
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OFERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/540,406
FILING DATE: 06-OCT-1995
CLASSIFICATION: 435
ATTORNEY/ABENT INFORMATION:
NAME: ROWLAND NUMBER: 20015
REFERENCE/DOCKET NUMBER: a60190-1
TELEPHONE: 415-781-1989
TELEPHONE: 415-398-3249
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: 94111
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/656,055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/540,406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     451 FNAATTOVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 1434 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-540-406-10
```

ò

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1.2%; Score 15; DB 4; Length 1434;
100.0%; Pred. No. 6.5e-05;
tive 0; Mismatches 0; Indels
                                          COUNTRY: US
ZIP: 9411
COMPUTE READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: SCOTT, MATHEW P
APPLICANT: GCODRICH, LISA V
APPLICANT: JOHNSON, RONALD L
ITILE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:

APPLICATION NUMBER: US/08/656,055
FILING DATE: 1996-05-31
APPLICATION NUMBER: 08/540,406
FILING DATE: 4Uhrnown>
ATTORNEY/AGENT INFORMATION:
NAME: ROMING NUMBER: 20015
REFERENCE/DOCKET NUMBER: a60190-1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-781-1989
TELEPRAX: 415-398-3249
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                     CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/724,631
FILING DATE: 28-NO. 6551782-2000
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 10:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/08/954,701A
FILING DATE: 20-OCT-1997
CLASSIFICATION: 435
AITOMEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ZIP: 02109
COMPUTER REAABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 10, Application US/08954701A; Patent No. 6610507; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE: Foley, Hoag & Eliot
STREET: One Post Office Square
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 1434 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: Vincent, Matthew P. REGISTRATION NUMBER: 36709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        451 FNAATTOVLPFLALG 465
CITY: San Francisco
STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481 FNAATTOVLPFLALG 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   roPoLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 100.
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: ASCII(text)
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: One POCITY: Boston STATE: MACOUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-954-701A-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-724-631-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: SCOTT, MATHEW P
GOODRICH, LISA V
JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
STREET: Flehr, Hobbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
                                                                                                                                                                                                                                                                                                                          ADDRESSEE: Flehr, Hohbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1.2%; Score 15; DB 4; Length 1434; 100.0%; Pred. No. 6.5e-05; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/918,658
FILING DATE: 22-Aug-1997
CLASSIFCATION: «Unknown»
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/656,055
FILING DATE: «Unknown»
APPLICATION NUMBER: 08/540,406
FILING DATE: «Unknown»
                                                                                                                                                                             APPLICANT: SCOTT, MATHEW P
GOODRICH, LISA V
JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: a60190-1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 10:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
NAME: Rowland, Bertram I
REGISTRATION NUMBER: 20015
                                                                                                                Sequence 10, Application US/08918658
Patent No. 6429354
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 94111
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 10, Application US/09724631
Patent No. 6551782
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 1434 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEPHONE: 415-781-1989
TELEFAX: 415-388-3249
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481 FNAATTQVLPFLALG 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                      CITY: San Francisco
STATE: CA
         481 FNAATTQVLPFLALG 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 100.(
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-724-631-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-918-658-10
                                                                                                US-08-918-658-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 14
                                                                        RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
         셤
```

ò

Gaps

```
Patent No. 5837538
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PCT-US95-13233-10
Sequence 10, Application PC/TUS9513233
GENERAL INFORMATION:
APPLICANT: THE BOARD OF TRUSTEES OF TEH LELAND STANFORD JUNIOR UNIVERSITY
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES:
NUMBER OF SEQUENCES:
ADDRESSEE: Flehr, Hobbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
CITY: San Francisco
STATE: CA
                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 1.2%; Score 15; DB 5; Length 1434; Best Local Similarity 100.0%; Pred. No. 6.5e-05; Matches 15; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                  1.2%; Score 15; DB 4; Length 1434; 100.0%; Pred. No. 6.5e-05; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: ISM FC compatible
OPREATUR SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
RPILICATION NUMBER: PCT/US95/13233
FILING DATE: 06-OCT-1990
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
NAME: Rowland, Bertram I
REGISTATION NUMBER: 200190-1
REFERENCE/DOCKET NUMBER: a60190-1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-781-1989
TELEPHONE: 415-398-3249
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
LENGTH: 1434 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-540-406-19; Sequence 19, Application US/08540406
REFERENCE/DOCKET NUMBER: SUV-
TELECOMUNICATION INFORMATION:
TELEPHONE: 617-832-1000
TELEFAX: 617-832-7000
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
LENGTH: 1434 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                             451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                    481 FNAATTOVLPFLALG 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481 FNAATTOVLPFLALG 495
                                                                                                                                                                                                                                                                                                                       Best Local Similarity 100.0
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ΩS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP: 94111
                                                                                                                                                                                                                                               US-08-954-701A-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PCT-US95-13233-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
```

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1447;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 1.2%; Score 15; DB 2; Length 144 Best Local Similarity 100.0%; Pred. No. 6.5e-05; Matches 15; Conservative 0; Mismatches 0; Indels
APPLICANT: SCOTT, MATHEW P
APPLICANT: GOODRICH, LISA V
APPLICANT: GOODRICH, LISA V
APPLICANT: JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPENDENCE ADDRESS:
ADDRESSE: Flehr, Hobbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: SCOTT, MATHEW P
APPLICANT: GOODRICH, LISA V
APPLICANT: GOODRICH, LISA V
APPLICANT: JOHNSON, RONALD L
TITLE OF INVENTIONS: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPEDUBENCE ADDRESS:
ADDRESSE: Flehr, Hobbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: Patentin Release #1.0, Version #1.30 SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/540,406
FILING DATE: 06-0CT-1995
CLASSIFICATION: 435
ATYONEY/AGENT INPORMATION:
NAME: ROWLEND BETERM I RECISTRATION NUMBER: 20015
REGISTRATION NUMBER: 20015
TELECOMMUNICATION INPORMATION:
TELECOMMUNICATION INPORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/656,055
FILING DATE:
                                                                                                                                                                                                                                   STATE: CA
COUNTRY: US
ZIP: 94111
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-656-055-19; Sequence 19, Application US/08656055 Patent No. 6027882; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: 415-398-3249
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           495 FNAATTOVLPFLALG 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1447 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          415-398-3249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 1447 amir
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ΩS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-540-406-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STATE:
```

ò

```
APPLICANT: Genmill, Robert M.
APPLICANT: Genmill, Robert M.
APPLICANT: Drabkin, Harry A.
TITLE OF INVENTION: TRC8, A GENE RELATED TO THE HEDGEHOG RECEPTOR, PATCHED CIRRENT REPERENCE: 9344-00004
CURRENT APPLICATION NUMBER: US/09/268,140
CURRENT FILING DATE: 2000-03-12
PRIOR PAPLICATION NUMBER: US 60/077,723
PRIOR FILING DATE: 1998-03-12
NUMBER OF SEQ ID NOS: 46
SOFTWARE: PATCHIN VET. 2.0
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; Sequence 19, Application US/08918658
; Patent No. 6429354
; GENERAL INFORMATION
GOOBRICH, LISA V
JOHNSON, RONALD L
TITLE OF INVENTION, Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCES: 19
CORRESPONDENCE ADDRESS:
STREET: Four Embarcadero Center, Suite 3400
CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 1.2%; Score 15; DB 3; Length 1447; Best Local Similarity 100.0%; Pred. No. 6.5e-05; Matches 15; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY: US

CONTRY: US

ZIP: 94111

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBW PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/918,658

FILING DATE: 22-Aug-1997

CLASSIFICATION: <Unknown>
Indels
ö
Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REGISTRATION NUMBER: 20015
REFERENCE/DOCKET NUMBER: a60190-1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
APPLICATION UNBER: 08/656,055
FILING DATE: «Unknown»
APPLICATION NUMBER: 08/540,406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:
NAME: Rowland, Bertram I
                                                                                                                                                                           US-09-268-140-5
, Sequence 5, Application US/09268140
; Patent No. 6268176
; GENERAL INPORMATION:
ó;
                                                                                     495 FNAATTQVLPFLALG 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     451 FNAATTOVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              495 FNAATTQVLPFLALG 509
15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 5
LENGTH: 1447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-918-658-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JS-09-268-140-5
    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     o;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 1.2%; Score 15; DB 3; Length 1447; Best Local Similarity 100.0%; Pred. No. 6.5e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 1447;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: SCOTT, MATHEW P
APPLICANT: GOODRICH, LISA V
APPLICANT: GOODRICH, LISA V
APPLICANT: JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS: ADDRESS: ADDRESS: ADDRESS: One Post Office Square
                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 15; DB 3; Le
Pred. No. 6.5e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                 AFFLLING DATE:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: ROWland, Bertram I
REGISTRATION NUMBER: 20015
REFERENCE/DOCKET NUMBER: a60190-1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-781-1989
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
LENGTH: 1447 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII(text)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/954,668
FILING DATE: 20-Oct-1997
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: Vincent, Matthew P.
REGISTRATION NUMBER: 36709
REFERENCE/DOCKET NUMBER: SUV-003.06
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-832-1000
  CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/540,406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-954-668-19
; Sequence 19, Application US/08954668
Patent No. 6172200
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100.0%; Pr
Matches 15; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: 617-832-7000
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
LENGTH: 1447 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       495 FNAATTOVLPFLALG 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                451 FNAATTOVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY: linear

MOLECULE TYPE: protein
US-08-656-055-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                          TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRANDEDNESS: sir
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: One P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STATE: MA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-954-668-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ∂
```

451 FNAATTQVLPFLALG 465

8

TELEPHONE: 415-781-1989

```
Indels
                                                                                                                                                                                                    APPLICANT: SCOTT, MATHEW P
APPLICANT: GOODRICH, LISA V
APPLICANT: JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS: ADDRESSE: ADDRESSE: Roley, Hoag & Eliot
STREET: One Post Office Square
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 4; Le
6.5e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII(text)
CURRENT APPLICATION DATA:
APPLICATION NATA:
APPLICATION NATA:
APPLICATION NATA:
APPLICATION 1935
FILING DATE: 20-OCT-1997
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Vincent, Matthew P.
REGISTRATION NUMBER: 36709
REGISTRATION NUMBER: 36709
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 15;
Pred. No.
                                                                                                                US-08-954-701A-19; Sequence 19, Application US/08954701A; Patent No. 6610507; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 1.2%; Soc
Best Local Similarity 100.0%; Pi
Matches 15; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: 617-832-....
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
L'RNGTH: 1447 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        495 FNAÁTTÖVLPFLÁLG 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                            USA
                                                                                                                                                                                                                                                                                                                                                           STREET: One E
                                                                                                                                                                                                                                                                                                                                                                                                                                               02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: U
ZIP: 94111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-954-701A-19
                                                                                                                                                                                                                                                                                                                                                                                                    STATE: MU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠ
                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
ADDRESSEE: Flehr, Hobbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIUM TYPE: Floppy disk
COMFUTER: IBM PC compatible
COMFUTER: IBM PC compatible
COMFUTER: IBM PC compatible
SOFEMATING SYSTEM: PC-DOS/MS-DOS
SOFFWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/724 631
FILING DATE: 28-No. 6551782-2000
CLASSIFICATION DATA:
APPLICATION NUMBER: US/08/656,055
FILING DATE: 1996-05-31
APPLICATION NUMBER: 08/540,406
                                                                                                                                                                                                                                               Query Match 1.2%; Score 15; DB 4; Length 1447; Best Local Similarity 100.0%; Pred. No. 6.5e-05; Matches 15; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 1.2%; Score 15; DB 4; Length 1447; Best Local Similarity 100.0%; Pred. No. 6.5e-05; Matches 15; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: SCOTT, MATHEW P
GOODRICH, LISA V
JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
NAME: ROWland, Bertram I
REGISTRATION NUMBER: 20015
REFERENCE/DOCKET NUMBER: a60190-1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-781-1989
INFORMATION FOR SEQ ID NO: 19:
                                                                                     TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 19:
US-08-918-658-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        / TOPOLOGY: linear
// MOLECULE TYPE: protein
/ SEQUENCE DESCRIPTION: SEQ ID NO: 19:
US-09-724-631-19
INFORMATION FOR SEQ ID NO: 19: SEQUENCE CHARACTERISTICS: LENGTH: 1447 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 19, Application US/09724631
Patent No. 6551782
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 1447 amino acids
                                                                                                                                                                                                                                                                                                                                    451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                             495 FNAATTOVLPFLALG 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 94111
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-724-631-19
                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 22
                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                           g
```

```
PCT-US95-13233-19

Sequence 19, Application PC/TUS9513233
GENERAL INFORMATION:
APPLICANT: THE BOARD OF TRUSTEES OF TEH LELAND STANFORD JUNIOR UNIVERSITY
ITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES:
NUMBER OF SEQUENCES:
ADDRESSEE: Flehr, Hobbach, Test, Albritton & Herbert
STREET: Rour Embarcadero Center, Suite 3400
CITY: San Francisco
STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1447;
495 FNAATTOVLPFLALG 509
          셤
```

ö

```
Gaps
                                             Gaps
                                             ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                            Sequence 11, Application US/08656055
; Sequence 11, Application US/08656055
; Patent No. 6027882
; GENERAL INFORMATION:
; APPLICANT: SCOTT, MATHEW P
; APPLICANT: GOORICH, LISA V
; TITLE OF INVENTION: Patched Genes and their Use
; TITLE OF INVENTION: Patched Genes and their Use
; NUMBER OF SEQUENCES: 19
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Plehr, Hobbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
; CITY: San Francisco
; STARE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                           0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 11;
Length 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-COMPATIBLE
OPERATING SYSTEM: PC-COMPATIBLE
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/656,055
FILING DATE:
CLASSIFICATION:
PRICA STELCATION DATA:
APPLICATION NUMBER: 08/540,406
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: REVALUAND, BETTARM I
REGISTRATION NUMBER: 20015
REGISTRATION NUMBER: 20015
REGISTRATION NUMBER: 20015
TELEPHONE: 415-781-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: SCOTT, MATHEW P
APPLICANT: GOODRICH, LISA V
APPLICANT: JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
0.7%; Score 9; DB 2;
100.0%; Pred. No. 0.37;
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 0.7%; Score 9; DB 3;
Best Local Similarity 100.0%; Pred. No. 0.37;
Matches 9; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-954-668-11; Sequence 11, Application US/08954668; Patent No. 6172200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: 415-398-3249
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 11 amino acids
Query Match 0.7
Best Local Similarity 100.
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        , MOLECULE TYPE: peptide US-08-656-055-11
                                                                                        187 TPLDCFWEG 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  187 TPLDCFWEG 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3 TPLDCFWEG 11
                                                                                                                                 3 TPLDCFWEG 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ΩS
                                                                                                                                                                                                                        US-08-656-055-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
                                                                                                                                                                                                 RESULT 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1447;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: SCOTT, MATHEW P
APPLICANT: SCOTT, LISA V
APPLICANT: JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
ADDRESSEE: Flehr, Hohbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
CITY: San Francisco
STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION DATA:
APPLICATION NUMBER: D408540,406
FILING DATE: 06-OCT-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: ROWANDIAG, BETTEAM I
REGISTRATION NUMBER: 20015
REFERENCE/DOCKET NUMBER: 20015
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEFRAX: 415-781-1989
                  CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/13233
FILING DATE: 06-0CT-1990
CLASSIFICATION:
ATTORREY/AGENT INFORMATION:
ATTORREY/AGENT INFORMATION:
REFERENCE/POCKET UNMBER: 20015
REFERENCE/POCKET UNMBER: a60190-1
TELEPOMMUNICATION INFORMATION:
TELEPOMMUNICATION INFORMATION:
TELEPAS: 415-398-3249
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHRARACTERISTICS:
LEMTH: 1447 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
1.2%; Score 15; DB 5; Le
Best Local Similarity 100.0%; Pred. No. 6.5e-05;
Matches 15; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: 94111
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
      OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 11, Application US/08540406
Patent No. 5837538
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 11 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               451 FNAATTOVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        495 FNAATTOVLPFLALG 509
                                                                                                                                                                                                                                                                                                                                                  TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   , MOLECULE TYPE: peptide US-08-540-406-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ns
                                                                                                                                                                                                                                                                                                                                                                                                                                           PCT-US95-13233-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-540-406-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
```

Gaps

.. 0

```
US-09-724-631-11

| Sequence 11, Application US/09724631
| Patent No. 6551784
| GENERAL INFORMATION:
| APPLICANT: SCOTT, MATHEW P
| GOOBICH, LISA V
| JOHNSON, RONALD L
| TITLE OF INVENTION: Patched Genes and their Use
| NUMBER OF SEQUENCES: 19
| CORRESPONDENCE ADDRESS:
| ADDRESSEE: Flehr, Hobbach, Test, Albritton & Herbert
| STREET: Four Embarcadero Center, Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                   Length 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                              Query Match 0.7%; Score 9; DB 4;
Best Local Similarity 100.0%; Pred. No. 0.37;
Matches 9; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/724,631
FILING DATE: 28-NO. 6551782-2000
CLASSIPICATION: «Unknown»
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/656,055
FILING DATE: 1996-05-31
APPLICATION NUMBER: 08/540,406
FILING DATE: «Unknown»
ATTORNEY/AGENT INFORMATION:
                             REGISTRATION NUMBER: 20015
REBERENCE/DOCKST NUMBER: a60190-1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-781-1989
TELEFRAX. 415-398-3249
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REGISTRATION NUMBER: 20015
REFERENCE/DOCKET NUMBER: a60190-1
TELEPOMUNICATION INFORMATION:
TELEPHONE: 415-731-1989
TELEPAX: 415-398-3249
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                TOPOLOGY: linear

MOLECULE TYPE: peptide

SEQUENCE DESCRIPTION: SEQ ID NO: 11:
US-08-918-658-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: peptide
SEQUENCE DESCRIPTION: SEQ ID NO: 11:
US-09-724-631-11
       NAME: Rowland, Bertram I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Rowland, Bertram I
                                                                                                                                                                                          LENGTH: 11 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 94111
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          187 TPLDCFWEG 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3 TPLDCFWEG 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Ralease #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/918,658

FILING DATE: 22-ANG-1997

CLASSIFICATION: VUNNOWN>

PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: SCOTT, MATHEW P
GOODRICH, LISA V
GOODRICH, LISA V
JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
ADDRESSEE: Flehr, Hobbach, Test, Albritton &
STREET: Four Embarcadero Center, Suite 3400
CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 0.7%; Score 9; DB 3; Best Local Similarity 100.0%; Pred. No. 0.37; Matches 9; Conservative 0; Mismatches
                                                                             CUNTRY: USA

ZUNTRY: USA

ZU109
COMPUTER TRADBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM FC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII(text)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/954,668
FILING DATE: 20-Oct-1997
CLASSIFICATION S30
ATTORNEY/AGENT INFORMATION:
NAME: Vincent, Matthew P.
REGISTRATION NUMBER: 36709
REFERENCE/DOCKET NUMBER: 36709
REGISTRATION NUMBER: 36709
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-832-1000
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARRACTERISTICS:
LENGTH: 11 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 08/656,055
FILING DATE: «Unknown»
APPLICATION NUMBER: 08/540,406
FILING DATE: «Unknown»
ATTORNEY/AGENT INPORMATION:
CORRESPONDENCE ADDRESS:
ADDRESSEE: Foley, Hoag & Eliot
STREET: One Post Office Square
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 11, Application US/08918658
Patent No. 6429354
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; MOLECULE TYPE: peptide US-08-954-668-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    187 TPLDCFWEG 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3 TPLDCFWEG 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STATE: CA
COUNTRY: US
                          ADDAL.
STREET: CAL.
TTY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-918-658-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
```

```
ö
                                                    ö
                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Gaps
                                                    .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ouery Match
0.7%; Score 9; DB 4; Length 11;
Best Local Similarity 100.0%; Pred. No. 0.37;
Matches 9; Conservative 0; Mismatches 0; Indels
                                                  0; Indels
Query Match

0.7%; Score 9; DB 4; Length 11;
Best Local Similarity 100.0%; Pred. No. 0.37;
Matches 9; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                  Sequence 11, Application US/08954701A

Patent No. 6610507

GENERAL INFORMATION:
APPLICANT: SCOTT, MATHEW P
APPLICANT: GOODELCH, LISA V
APPLICANT: GOODELCH, LISA V
APPLICANT: GOODELCH, LISA V
APPLICANT: GOODELCH, LISA V
APPLICANT: JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
ADDRESSEE: FOLSY, Hoag & Eliot
STREET: One Post Office Square
CITY: BOSTON
STATE: MA
COUNTRY: USA
ZIP: O2109
COMPUTER READBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATIOS NYSTEM: US/08/954,701A
FLING DATE: 20-OCT-1997
CLASSIFICATION: 435
ATTONEY/AGENT INFORMATION:
FLING DATE: 20-OCT-1997
CLASSIFICATION NUMBER: 36709
REGISTRATION NUMBER: 36709
REGISTRATION NUMBER: 36709
REFERENCE/DOCKET NUMBER: 36709
TELEPRAK: 617-932-1000
INFORMATION FOR SEQ ID NO: 11:
SECOMMUNICATION INFORMATION:
TELEPRAK: 617-932-1000
INFORMATION FOR SEQ ID NO: 11:
STRANDBNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-954-701A-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     187 TPLDCFWEG 195
                                                                                             187 TPLDCFWEG 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3 TPLDCFWEG 11
                                                                                                                         3 TPLDCFWEG 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-954-701A-11
                                                                                                                                                                                                                                US-08-954-701A-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                ò
                                                                                                                                       g
```

Search completed: June 16, 2005, 08:09:44 Job time : 50 secs

 \mathbf{Thu}

```
Оp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 2, Appli
Sequence 2, Appli
Sequence 19, Appli
Sequence 19, Appli
Sequence 19, Appli
Sequence 19, Appli
Sequence 10, Appli
Sequence 10, Appli
Sequence 10, Appli
                                                                                                                                                                                            June 14, 2005, 16:10:21; Search time 175 Seconds (without alignments) 2635.150 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                   1 MTRSPPLRELPPSYTPPART......SPAATSSGNLSSRGPGPATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Published Applications AA:*

1: \( \cgn2 \frac{6}\) \text{prodata} 2 \( \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

2: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

3: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

4: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

5: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

6: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

7: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

8: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

9: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

11: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

12: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

13: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

14: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

15: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

16: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

17: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

18: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

19: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

19: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

10: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

11: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

12: \( \cgn2 \frac{6}\) \text{prodata} \( 2 \) \text{pubpa} \( \) \text{PUBCOMB.pep:*} \)

13: \( \cgn2 \frac{6}\) 
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-990-046-2
US-09-909-280A-2
US-09-990-046-7
US-08-954-70IA-19
US-09-898-533-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-754-032-10
US-10-421-446-10
US-10-302-279-60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-754-032-19
US-10-421-446-19
US-08-954-701A-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1710399 seqs, 383334425 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                 OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                 US-09-990-046A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sed
                                                                                                                                                                                                                                                                                                                                                                Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6248
33348
33348
33348
3337
3337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Minimum DB E
Maximum DB E
                                                                                                                                                                                                                                                                                                                                                                                                          Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Database
                                                                                                                                                                                                   Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Result
```

Sequence 4, Appli Sequence 3, Appli Sequence 3, Appli Sequence 48, Appl Sequence 48, Appl Sequence 6, Appli Sequence 6, Appli Sequence 6, Appli Sequence 510, Ap Sequence 1542, Ap Sequence 1542, Ap Sequence 1542, Ap Sequence 44, Appl Sequence 44, Appl Sequence 44, Appl Sequence 2, Appli Sequence 3, Appli Sequence 4, Appli Sequence 12, Appli	3, A
US-08-954-701A-4 US-09-754-032-4 US-09-898-533-3 US-08-954-771-48 US-10-847-654-48 US-10-847-654-48 US-10-847-654-48 US-10-847-71-48 US-08-954-771-48 US-08-954-771-48 US-08-954-771-48 US-10-369-49-5464 US-10-369-49-5464 US-10-369-49-5464 US-10-208-731-2 US-10-208-731-4 US-10-663-301A-44	10-646-301A-1 10-736-769-12 10-415-934-3
8	16
1311 1311 1286 1299 1299 1299 1209 1209 1209 1209 1209	1333 1333 933
	9887 9.90 1.
2233 22335 22335 1961.5 1961.5 1961.5 1961.5 1961.5 1961.5 1961.5 640 640 640 640 640 640 640 640 640 640	• • • •
11111111100000000000000000000000000000	1 41 41 1 12 41 73

ALIGNMENTS

```
61 LGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QEGENILFPEALGLHLQAALTASKVQVSLYCKSWDLNKICYKSGVPLIENGMIEWMIEKL 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                   Sequence 2, Application US/0990046

Patent No. US20020156245A1

GENERAL INFORMATION:
APPLICANT: de Sauvage, Frederic
APPLICANT: Carpenter, David A.
TITLE OF INVENTION: Patched-2
FILE REFERENCE: P1405R1
CURRENT APPLICATION NUMBER: US/09/990,046
CURRENT FILING DATE: 2001-11-20
PRIOR APPLICATION NUMBER: BARLIER APPLICATION NUMBER: 09/293,505
PRIOR FILING DATE: EARLIER FILING DATE: 1999-04-15
NUMBER OF SEQ ID NOS: 32
SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 9; Length 1203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 6272; 100.0%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 1203; Conservative
                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                     LENGTH: 1203
                                                                                                                                                                                                                                                                                                                                                                                                          US-09-990-046-2
US-09-990-046-2
```

9 9

121

ò

Sequence 60,

QEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL 180

8 8 8

8 8 8

ò

8 6 8 6

8 8 8

g

8 8 8

```
LENGTH: 1203
                                                                                                                                                                                                                                               US-09-909-280A-2
                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                        TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                  SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                        요
                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FDFIVRYFFAALTVLTLIGLLHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLAMMTVELFGIMGFLGIKLSAIPVV 1020
                                                                   300
                                              300
                                                                                            360
                                                                                                                                                                                      480
                                                                                                                                                                                                             480
                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                             999
                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                        780
                                                                                                                                                                                                                                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                         420
                                                                                                                                                             420
                                                           AQVGQAYVGR PCLAPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG
                                                                                                                                                                                                                                                ALPGTPLQERMGECLQRTGTSVVLTSINNWAAFLWAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                       LRWGASSSLPQSFARVITSMTVAIHPPPLPGAYIHPAPDEPPWSPAATSSGNLSSRGPGP
PPCVILTPLDCFWEGAKLOGGSAYLPGRPDIOWTNLDPEQLLEELGPFASLEGFRELLDK
                                                                                           GWARD DQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV
                                                                                                        GMARDEQGELLRAEALQSTFILMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV
                                                                                                                                                    TRKLVDREGLI PPELFYMGLIVWVSSDPLGLAASQANFYPPPPEMLHDKYDTTGENLR IP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLAMMTVBLFGIMGFLGIKLSAIPVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ILVASVGIGVEFTVHVALGFILTTGGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPEVIOMYKESPEILSPPAPQGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG
                                                                                                                                         QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                                                                                                                                                                                    ALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                 AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                                                                                             AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQBLGDGTVPVGIAHLTATV
                                                                                                                                                                                                                                                                                                                            QAFTHCEASSQHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS
                                                                                                                                                                                                                                                                                                                                           LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGENLRIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PAQPLEFAQPPFLLRGLQKTADFVEAI EGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                      SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Arc 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1201
                                               241
                                                                     241
                                                                                                                  301
                                                                                                                                                              361
                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1201
181
                       181
                                                                                           301
                                                                                                                                         361
                                                                                                                                                                                       421
                                                                                                                                                                                                             421
                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                901
```

g

8 8

8 6 8 6

8 6 8 6

品 公 品 公 品 公

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOGSVGLAGVILVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241 AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQBELLLG 300
RESULT 2
US-09-909-280A-2
i Sequence 2, Application US/09909280A
j Patent No. US20020160375A1
j GENERAL INFORMATION:
    TITLE OF INVENTION: HUMAN PATCHED GENES AND PROTEINS, AND USES RELATED
j TILLE OF INVENTION: HUMAN PATCHED GENES AND PROTEINS, AND USES RELATED
j TILLE OF INVENTION: THERETO
j FILE REFERENCE: CIBT-P02-050
j CURRENT APPLICATION NUMBER: US/09/909,280A
j CURRENT PILING DATE: 2001-07-19
j PRIOR APPLICATION NUMBER: US 60/067,940
j PRIOR FILING DATE: 1998-12-08
j NUMBER OF SEQ ID NOS: 6
j SOFFWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421 SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     I.GLILAFGALALGLEMAIIETNILEQLWVEVGSRVSQELHYTKEKIGEEAAYTSQMLIQTAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWNIEKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GMARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541 AVMLVPPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQGELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FPCVILTPLDCFWEGAKL,QGGSAYLPGRPDIQWTNLDPRQLLEELGPFASLEGFRELLDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ALPGTPLOERMGECLORTGTSVVLTSINNMAAFLMAALVPIPALRAFSLOAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9; Length 1203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ..
..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  日
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 99.6%; Score 6248; Dest Local Similarity 99.8%; Pred. No. 0; Matches 1200; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Homo sapiens
```

240 300 300 360 360 420 420 480 480 540 540 900 900 999 9 720 720 780 780 840 840 900

8 4 8 4 8 4 8 4 8 4 8 4 8 4 8 4 8 4

```
FDFIIRYFFVVLTVLTLLGLLHGLLLDVLLSILGPPPQVVQVYKESPQTLNSAAPQRGG 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH 1080
  901 AAQPLEFAQFPFILHGLQKTADFVEAIEGARAACTEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181 FPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWINLDPQQLLEELGPFASLEGFRELLDK
                                                                                                   GTARDLQGQLLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASMYLQAWQRRFV
                                                                                                                                                                                         TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PDFIVRYFFAALTVLTLIGLIHGLVLLPVLLSILGPPPEVIOMYKESPEILSPPAPQGGG
                                            FPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWINLDPEQLLEELGPFASLEGFRELLDK
                                                                                        AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG
                                                                                                                                  GMARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSBEQASTVLQAWQRRFV
                                                                                                                                                                              QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                                                                                                                                                                                                                    ALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                          QAPTHCBASSQHVVT1LPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS
                                                                                                                                                                                                                                                                                                                                                                                                                                               TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGENLRIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                901 PAQPLEFAQPPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LRWGASSSIPOSFARVITSMIVAIHPPPLPGAYIHPAPDEP 1181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                        241
                                                                                                              241
                                                                                                                                  301
                                                                                                                                                        301
                                                                                                                                                                              361
                                                                                                                                                                                                  361
                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                          199
                                                                                                                                                                                                                                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 196
  2 4 5 6
                                                                                $ 8 $
                                                                                                                                               a
                                                                                                                                                                          8 8 8
                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                 8 8 8
                                                                                                                                                                                                                                                                                                                             8 8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     유
                                                                                                                                                                                                                                                                                                                                                                                                                  8 &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ⋩
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            & <del>8</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          음. 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                      1080
                                                                                                                                                                                                                                                                                                                                                       ö
                                            780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LGLLAFGALALGLRWAIIETNIEQLWVEVGSRVSQELHYTKEKLGEBAAYTSQMLIQTAR 120
|||:|||||||||||||||
|GLVAFGALALGLRVAVIETDLEQLWVEVGSRVSQELHYTKEKLGEBAAYTSQMLIQTAH 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
WLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                  TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPFEWLHDKYDTTGENLRIP
                                                                                                                                              TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEMLHDKYDTTGENLRIP
                                                                                                                                                                             PAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                          PAQPLEFAQFPFILRGLOKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGI
                                                                                                                                                                                                                                                                   ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH
                                                                                                                                                                                                                                                                               ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH
                                          TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MTRSPPLRELPPSYTDPARTAAPQILAGSLKAPLMLRAYFQGILFSLGGGIQRHGGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 09/293,505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1182;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      64; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 7, Application US/09990046

Sequence 7, Application US/09990046

Batent No. US20020156245A1

GENERAL INFORMATION:

APPLICANT: de Sauvage, Frederic

APPLICANT: David A.

TILLE OF INVENTION: Patched-2

FILE REFERENCE: P1405R1

CURRENT FILING DATE: 2001-11-20

FRIOR PPLIAGO DATE: ADDILICATION NUMBER: US/09/990,046

CURRENT FILING DATE: EARLIER FILING DATE: 1999-04-15

NUMBER OF SEQ ID NOS: 32

SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ..
6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 89.3%; Score 5599; D
Best Local Similarity 90.9%; Pred. No. 0;
Matches 1074; Conservative 43; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 : Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                   ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                      ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 1182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-990-046-7
                                                                                                                                                                                                                                                                   1021
                                                                                                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                                                                                                    1081
                                                                                                                                                                                                                                                                                                                                                         1141
                                                                                       781
                                                                                                            781
                                                                                                                                 841
                                                                                                                                                                             901
                                                                                                                                                                                                                                             196
                                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                                                                                                                                                                                                                                              1141
                                           721
                                                                721
                                                                                                                                                       841
                                                                                                                                                                                                 901
                                                                                                                                                                                                                       196
                                                                                                                                                                                                                                                                                                                                                                                                    1201
                                                                                                                                                                                                                                                                                                                                                                                                                         1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
```

8 8

1020

900

960

1140

g

ઠે

590

```
-----APQGG 1139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----ASSSLPQSFAR 1155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  948 WVHDKADYMPETRLRIPPAREPIEYAQFPFYLNGLRDTSDFVEAIEKVRTICSNYTSLGLS 1007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FGIMGFLGIKLSAIPVVILVASVGIGVEFTVHVALGFL/TTGGSRNLRAAHALEHTFAPVT 1063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DGAISTLLGLLMLAGSHFDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPPEVI-- 1121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1188 NGLNRLPTPSPEPPPSVVRFAMPPGHTHSGSDSSDSEYSSQTTVSGLSEELRHYEAQQGA 1247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  248 GGPAHQVIVEATENPVFAHSTVVHPESRHHPPSNPRQQPHLDSGSLPPGRQGQQPRRDPP 1307
                                                                                                                                                 705 TLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFS
                                                                                                                                                                                                                                                                                                                                   1308 REGIMPPLYRPRRDAFEISTEGHSGPSNRARWGPRGARSHNPRNPASTAMGSSVPGYCQP
            LAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTEALPG--
                                                                                    545 VFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQGLGD------GTVPVGIAH--
                                                                                                                                                                                          -----LTATVQAFTHCEASSQHVVTILPPQAHLVPPP----SDPLGSELFSPGGSTRD
                                                                                                                                                                                                                                                   LLGQEEETRQKAACKSLPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGA
                                                                                                                                                                                                                                                                                                                                                                            765 SLKAVLPPPATQAPRTWLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLL
                                                                                                                                                                                                                                                                                                                                                                                                                                      825 IQTGDAQEPLDFSQLTTRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                885 WIHDKYDTTGE-NLRIPPAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVH
                                                                      TPLOERMGECLORIGISVVLTSINNMAAFLMAALVPIPALRAFSLOAAIVVGCTFVAVML
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ---IRWG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----QMYKESPE-----ILSPP-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VTT----SMTVAIHPPPLPGAYIHP 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-898-533-5
; Sequence 5, Application US/09898533
; Patent No. US20020106656A1
; GENERAL INFORMATION:
; APPLICANT: Genmill, Robert M.
; APPLICANT: Drabkin, Harry A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1156
            427
                                                                       485
                                                                                                                                                                                              296
                                                                                                                                                                                                                                                       645
                                     셤
                                                                                               g
                                                                                                                                                             엄
                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                   원
                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                          염
                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                      ò
                                                                                                                                 à
                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTARQEGENILT 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LDCFWEGAKLOGGSAYLPGRPDIOWTNLDPEOLLEELGPF-ASLEGFRELLDKAQVGQAY 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GELLRAEALQSTFLLMSPRQLYEHFRG-DYQTHDIGWSEEQASTVLQAWQRRFVQLAQEA 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQSQGSVG 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLGGMARDPQ 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TEALLQHLDSALQASRVHVYMYNRQWKLEHLCYKSGELITETGYMDQIIEYLYPCLIITP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKLFPCVILTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PSYTPPARTAAPQILAGSL---KAPLWLRAYFQGLLFSLGCGIQRHCGKVLFLGLLAFGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 53.4%; Score 3348; DB 8; Length 1447; Best Local Similarity 49.9%; Pred. No. 7.9e-267; Matches 672; Conservative 203; Mismatches 285; Indels 186;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1447;
                                                                                                                     their Use
                         Sequence 19, Application US/08954701A
Publication No. US20030032085A1
GENERAL INFORMATION:
APPLICANT: SCOTT, MATHEW P
APPLICANT: GOODRICH, LISA V
APPLICANT: JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and the
UNWBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY AGENT INFORMATION:
NAME: Vincent, Matthew P.
REGISTRATION NUMBER: 36709
REFERENCE DOCKET NUMBER: SUV-003.08
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-832-1000
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
LENGTH: 1447 amino acids
                                                                                                                                                                                                                                                                                                             SOFTWARE: ASCII(text)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/954,701A
FILING DATE: 20-0CT-1997
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                   MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                               ADDRESSEE: Foley, Hoag & Eliot
STREET: One Post Office Square
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                          CITY: Boston
STATE: MA
                                                                                                                                                                                                                            USA
                                                                                                                                                                                                                                       02109
RESULT 4
US-08-954-701A-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-954-701A-19
                                                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
```

943

710

704 768 764 827 824 887 884 947

Ŋ

```
FGIMGFLGIKLSAIPVVILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVT 1063
                                                                                                                    948 WYHDKADYMPETRLRIPAAEPIEYAQFPFYLNGLRDTSDFYEAIEKVRTICSNYTSLGLS 1007
                                                                                                                                                                                     SYPNGYPFLFWEQYIGLRHWLLLFISVVLACTFLVCAVFLLNPWTAGIIVWVLALMTVEL 1067
                                                                                                                                                                                                                                                   1188 NGLNRLPTPSPEPPPSVVRFAMPPGHTHSGSDSSDSEYSSQTTVSGLSEELRHYEAQQGA 1247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ---ASSSLPQSFAR 1155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      944 AYPSGSPFLFWEQYLGLRRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLVLAMMTVEL 1003
                                                                                                                                                                                                                                                                                                 DGAISTLLGLLMLAGSHFDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPPEVI-- 1121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1248 GGPAHQVIVEATENPVFAHSTVVHPESRHHPPSNPRQQPHLDSGSLPPGRQGQPRRDPP 1307
                                                                                                   WLHDKYDTTGE-NLRIPPAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVH 943
                                                       NVKYVMLEENKQLPKWMLHYFRDWLQGLQDAFDSDWETGKIMPNNYKNGSDDGVLAYKLL
                                      IQTGDAQEPLDFSQLTTRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Herbert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Albritton
Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GOODRICH, LISA V
JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----LRWG-----
                                                                                                                                                                                                                                                                                                                                                                 ----OMYKESPE----ILSPP-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: Rowland, Bertram I
REGISTRATION NUMBER: 20015
REFERENCE/DOCKET NUMBER: a60190-1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/540,406
FILING DATE: 06-OCT-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION DATA:
REPLICATION NUMBER: US/09/754,032
FILING DATE: 03-dan-2001
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: Flehr, Hobbach, Test,
STREET: Four Embarcadero Center,
CITY: San Francisco
STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VTT----SMTVAIHPPPLPGAYIHP 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1368 ITTVTASAŠVTVAVHPPPVPGPGRNP 1393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 19, Application US/09754032; Publication No. US20030148388A1 ; GENERAL INFORMATION: APPLICANT: SCOTT, MATHEW P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ZIP: 94111
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                1140 G-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-754-032-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1156
      828
                                      825
                                                                     888
                                                                                                   885
                                                                                                                                                                                                  1008
                                                                                                                                                                                                                                  1004
                                                                                                                                                                                                                                                                   1068
                                                                                                                                                                                                                                                                                                 1064
                                                                                                                                                                                                                                                                                                                                1128
                                                                                                                                                                                                                                                                                                                                                                 1122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1141
                                                                                                                             쉽
                                à
                                                           용
                                                                                        à
                                                                                                                                                                    8
                                                                                                                                                                                           a
                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                     644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   651 AHETQITMQSTVQLRTEYDPHTHVYYTTAEPRSEISVQPVTVTQDTLSCQSPESTSSTRD 710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TRVRDGLDLTDIVPRETREYDFIAAQFKYFSFYNMYIVTQKA-DYPNIQHLLYDLHRSFS 827
                                                                                                                                                                                                                                                                                                                                                                                 LALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTARQEGENILT 128
                                                                                                                                                                                                                                                                                                                                                                                                PEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKLFPCVILTP 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPF-ASLEGFRELLDKAQVGQAY 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLGGMARDPQ 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GELLRAEALQSTFLLMSPRQLYEHFRG-DYQTHDIGWSEEQASTVLQAWQRRFVQLAQEA 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQSQGSVG 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTEALPG-- 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGD------GTVPVGIAH-- 595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LLGQEBETRQKAACKSLPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGA 704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFS 764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SLKAVLPPPATQAPRTWLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLL 824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TEALLQHLDSALQASRVHVYMYNRQWKLEHLCYKSGELITETGYMDQIIEYLYPCLIITP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12 PSYTPPARTAAPQILAGSL---KAPLWLRAYFQGLLFSLGCGIQRHCGKVLFLGLLAFGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFVAVML
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -----LTATVQAFTHCEASSQHVVTILPPQAHLVPPP----SDPLGSELFSPGGSTRD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
TITLE OF INVENTION: TRC8, A GENE RELATED TO THE HEDGEHOG RECEPTOR, TITLE OF INVENTION: PATCHED FILE REPERENCE: 93445-00004
CURRENT APPLICATION NUMBER: US/09/898,533
CURRENT APPLICATION NUMBER: US/09/268,140
PRIOR APPLICATION NUMBER: US/09/268,140
PRIOR PILING DATE: 2000-03-12
NUMBER OF SEQ ID NOS: 46
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 5
                                                                                                                                                                                                                                                Query Match 53.4%; Score 3348; DB 9; Length 1447; Best Local Similarity 49.9%; Pred. No. 7.9e-267; Matches 672; Conservative 203; Mismatches 285; Indels 186;
                                                                                                                                                                                 TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                  LENGTH: 1447
                                                                                                                                                                                                                 US-09-898-533-5
                                                                                                                                                                                                                                                                                                                                                                                 69
                                                                                                                                                                                                                                                                                                                                                                                                                                              129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               411
                                                                                                                                                                                                                                                                                                                                                                                                                 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                           요
                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           유성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ठ
                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           કે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠ
```

---APOGG 1139

----ASSSLPQSFAR 1155

```
PGIMGFLGIKLSAIPVVILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALBHTFAPVT 1063
                                                                                                                                                                             1188 NGLNRLPTPSPEPPPSVVRFAMPPGHTHSGSDSSDSSYSSQTTVSGLSEELRHYEAQOGA 1247
                                                                                                                                                                                                                                                                                                                                                            1248 GGPAHQVIVEATENPVFAHSTVVHPESRHHPPSNPRQQPHLDSGSLPPGRQGQQPRRDPP 1307
                                                                                                                                                                                                                                                                                                                                                                                                                  1308 REGLWPPLYRPRRDAFEISTEGHSGPSNRARWGPRGARSHNPRNPASTAMGSSVPGYCQP 1367
WLHDKYDTTGE-NLRIPPAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVH
                                                            944 AYPSGSPFLFWEQYLGLRRCFLLAVCILLVCTFLVCALLLINPWTAGLIVLVLAMMTVEL
                                                                                                                     DGAISTLIGLIMLAGSHFDFIVRYFFAALTVLTLIGLLHGLVLLPVLLSILGPPPEVI --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Albritton
Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: 28-NO. US20030186309A1-2000
APPLICATION NUMBER: US/08/656,055
FILING DATE: 1996-05-31
APPLICATION NUMBER: 08/540,406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: SCOTT, MATHEW P
GOODRICH, LISA V
JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their
NUMBER OF SEQUENCES: 19
                                                                                                                                                                                                                                                                            ----OMYKESPE----ILSPP-----
                                                                                                                                                                                                                                                                                                                                                                                           ---LRWG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/421,446
FILING DATE: 22-Apr-2003
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: a60190-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/09/724,631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE: Flehr, Hobbach, Test, STREET: Four Embarcadero Center,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: PatentIn Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----SMTVAIHPPPLPGAYIHP 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: Rowland, Bertram I
REGISTRATION NUMBER: 20015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 19, Application US/10421446 Publication No. US20030186309A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 94111
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                  L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-421-446-19
                    888
                                                                          948
                                                                                                                                                                                                                     1064
                                                                                                                                                                                                                                                                            1122
                                                                                                                                                                                                                                                                                                                                    1140
                                                                                                                                                                                                                                                                                                                                                                                           1141
                                                885
                                                                                                                                                                1004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
                                                                          g
                                                                                                      ò
                                                                                                                               g
                                                                                                                                                              à
                                                                                                                                                                                         g
                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                             염
                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           원
                                               à
                                                                                                                                                                                                                                                                                             128
                                                                                                                                                                                                                                                                                                                                                   188
                                                                                                                                                                                                                                                                                                                                                                                                         247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TRVRDGLDLTDIVPRETREYDF1AAQFKXFSFYNMYIVTQKA-DYPNIQHLLYDLHRSFS 827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               824
                                                                                                                                                                                                                                                                                                          291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GELLRAEALQSTFLLMSPRQLYEHFRG-DYQTHDIGWSEEQASTVLQAWQRRFVQLAQEA 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQSQGSVG 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTEALPG-- 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGD------GTVPVGIAH-- 595
                                                                                                                                                                                                                                                              111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                VGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLGGMARDPQ 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LLGQEBETRQKAACKSLPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGA 704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     825 IQTGDAQEPLDFSQLTTRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPE 884
                                                                                                                                                                                                                                   68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TEALLOHIDSALQASRVHVYMYNRQWKLEHLCYKSGELITETGYMDQIIEYLYPCLIITP
                                                                                                                                                                                                                                                                                                                                                                                                                         TLVODGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTOGGFDYAHSQRALFDLHQRFS
                                                                                                                                                                                                                                                                                          LALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTARQEGENILT
                                                                                                                                                                                                                                                                                                                                                 PEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKLFPCVILTP
                                                                                                                                                                                                                                                                                                                                                                                                        LDCFWEGAKLOGGSAYLPGRPDIQWTNLDPEQLLEELGPF-ASLEGFRELLDKAQVGQAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TPLQERMGECLQRIGISVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFVAVML
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----LTATVQAFTHCEASSQHVVTILPPQAHLVPPP----SDPLGSELFSPGGSTRD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SLKAVLPPPATQAPRTWLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLL
                                                                                                                                                                                                                                   PSYTPPARTAAPQILAGSL---KAPLWLRAYFQGLLFSLGCGIQRHCGKVLFLGLLAFGA
                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                       Indels 186;
                                                                                                                                                                             Length 1447;
                                                                                                                                                                           Ouery Match 53.4%; Score 3348; DB 10; Best Local Similarity 49.9%; Pred. No. 7.9e-267; Matches 672; Conservative 203; Mismatches 285;
                                                                                                        TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 19:
                      INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
LENGTH: 1447 amino acids
        TELEPHONE: 415-781-1989
                                                                          TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                     12
                                                                                                                                                                                                                                                                 53
                                                                                                                                                                                                                                                                                             69
                                                                                                                                                                                                                                                                                                                       112
                                                                                                                                                                                                                                                                                                                                                   129
                                                                                                                                                                                                                                                                                                                                                                               172
                                                                                                                                                                                                                                                                                                                                                                                                                                     232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                765
                                                                                                                                                                                                                                                                                                                                                                                                           189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                      ઠે
```

```
G------1140
                                                                         FGIMGFLGIKLSAIPVVILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVT 1063
                                                                                                                                                                                                                                  DGAISTLIGLIMLAGSHFDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPPEVI-- 1121
                                                                                                                                                                                                                                                     1188 NGLNRLPTPSPEPPPSVVRFAMPPGHTHSGSDSSDSSYSSQTTVSGLSEBLRHYEAQQGA 124.7
                                                                                                                                                                                                                                                                                                                                                                                   GGPAHQVIVEATENPVFAHSTVVHPESRHHPPSNPRQQPHLDSGSLPPGRQGQQPRRDPP 1307
                                                                                                                                                                                                                                                                                                                                                                                                                                           1308 REGLWPPLYRPRRDAFEISTECHSGPSNRARWGPRGARSHNPRNPASTAMGŠSVPGYCQP 1367
               WLHDKYDTTGE-NLRIPPAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVH
                                                                                                                  944 AYPSGSPFLFWEQYLGLRRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLAMMTVEL
IQTGDAQEPLDFSQLTTRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 10, Application US/08954701A
Publication No. US20030032085A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: GCODRICH, LISA V
APPLICANT: JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOUTWARE: ASCII(text)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/954,701A
FILING DATE: 20-CCT-1997
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Vincent, Matthew P.
REFERENCE/DOCKET NUMBER: 36709
REFERENCE/DOCKET NUMBER: SUV-003.08
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUV-003.08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                              ----QMYKESPE----ILSPP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Foley, Hoag & Eliot
STREET: One Post Office Square
CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: 617-832-7000
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 1434 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: 617-832-1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MA
USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-954-701A-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STATE: MA
                                                                                                                                                                           1004
                                                                                                                                                                                                                                     1064
                                                                                                                                                                                                                                                                                              1122
                                                                                                                                                                                                                                                                                                                                                                                    1248
                                                         885
                                                                                                                                                                                                                                                                  1128
                                                                                                                                                                                                                                                                                                                                                         1140
                                                                                                                                                                                                                                                                                                                                                                                                                 1141
                                                                               셤
                                                                                                                  8
                                                                                                                                               셤
                                                                                                                                                                          δ
                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                               용
                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                         용
                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  요
                         g
                                                        ò
                                                                                                                                                                                                                                                                                                           651 AHETQITMQSTVQLRTEYDPHTHVYYTTAEPRSEISVQPVTVTQDFLSCQSPESTSSTRD 710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKLFPCVILTP 188
                                                                                                                                                                                                                                                                                                                                                                                    TEALLQHLDSALQASRVHVYMYNRQWKLEHLCYKSGELITETGYMDQIIEYLYPCLIITP 231
                                                                                                                                                                                                                                                                                                                                                                                                                                LDCFWEGAKLOGGSAYLPGRPDIOWTNLDPEQLLEELGPF-ASLEGFRELLDKAQVGQAY 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                GELLRAEALOSTFLLMSPROLYEHFRG-DYOTHDIGWSEEQASTVLQAWQRRFVQLAQEA 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQSQGSVG 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TPLOERMGECLORTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFVAVML 544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       545 VFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGD-----GTVPVGLAH-- 595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----LTATVQAFTHCEASSQHVVTILPPQAHLVPPP----SDPLGSELFSPGGSTRD 644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LIGOBEETROKAACKSLPCARWNLAHFARYOFAPLILLOSHAKAIVLVLFGALLGLSLYGA 704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFS 764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFWHWQEELLLGGMARDPQ 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTEALPG-- 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SLKAVLPPPATQAPRTWLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12 PSYTPPARTAAPQILAGSL---KAPLWLRAYFQGLLFSLGCGIQRHCGKVLFLGLLAFGA
                                                                                                                                                                                                                        186;
                                                                                                                                                                                            Length 1447;
                                                                                                                                                                                                                        Indels
                                                                                                                                                                                         Ouery Match 53.4%; Score 3348; DB 14; Best Local Similarity 49.9%; Pred. No. 7.9e-267; Matches 672; Conservative 203; Mismatches 285;
                                                                                                                               MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 19:
US-10-421-446-19
TELECOMMUNICATION INFORMATION
TELEPHONE: 415-781-1989
TELEFAX: 415-198-3249
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
                                                                         LENGTH: 1447 amino acids
                                                                                      TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             292
                                                                                                                                                                                                                                                                                                             69
                                                                                                                                                                                                                                                                                                                                          112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 694
                                                                                                                                                                                                                                                                                                                                                                        129
                                                                                                                                                                                                                                                                                                                                                                                                  172
                                                                                                                                                                                                                                                                                                                                                                                                                                189
                                                                                                                                                                                                                                                                                                                                                                                                                                                             232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                             쉽
                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                       δ
```

Φ

g

à

셤

ઠે

g

8

셤

ò

g

δ

d

ò

셤 Š В

ò

원 ò 셤

à

g

ò 원

à

g

ઠે

8 유 à 셤

à

```
1159
                                                                                                             VLVLAMMTVELFGIMGFLGIKLSAIPVVILVASVGIGVEFTVHVALGFLTTQGSRNLRAA 1052
                                     113 ILGPPPEVI-----QMYKESPEILSPP-----APQGGGLRWGASSSLPQSFARVTTS--
                    ACAEAGQAGVHAYPSGSPFLFWEQYLGLRRCFLLAVCILLVCTFLVCALLLLNPWTAGLI
                                                                                                                                                                1053 HALEHTFAPVTDGAISTLLGLLMLAGSHFDFIVRYFFAALTVLTLLGLLHGLVLLPVLLS
                                                                                                                                                                                                                                                                                                              ---MIVAIHPPPLPGAYIHP-APDEPPWSPAA---TSSGNLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        53.2%; Score 3337; DB 10; Length 1434;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE: Flehr, Hobbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: SCOTT, MATHEW P
GOODRICH, LISA V
JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/08/540,406
FILING DATE: 06-OCT-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: a60190-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: PLOPBY disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/09/754,032
FILING DATE: 03-Jan-2001
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: linear
ULE TYPE: protein
NCE DESCRIPTION: SEQ ID NO: 10:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Rowland, Bertram I
REGISTRATION NUMBER: 20015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 10, Application US/09754032 Publication No. US20030148388A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 1434 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE: 415-781-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: 415-398-3249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: San Francisco
STATE: CA
COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FOR SEC ID NO: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                    SRGPG 1199
                                                                                                                                                                                                                                                                                                                                                                                                                      ----PG 1282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-754-032-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-754-032-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION
                  933
                                                                                                                                                                                                                                                                                                              1160
                                                                                                                                                                                                                                                                                                                                                                                                                      1281
                                                                                          993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
                                                 g
                                                                                        ò
                                                                                                                      원
                                                                                                                                                              ð
                                                                                                                                                                                                셤
                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                              Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               586
                                                                                                                                                                                                                                                                              | :: | | : | | | | | | : | | | | : | | | : : : | TPKEEGANVLTTEALLQHLDSALQASRVHVYMYNRQWKLEHLCYKSGELITETGYMDQII 206
                                                                                                                                                                                                                                                                                                                                                                                                                         296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          686 QSPESTSSTRDLLSQPSDS--SLHCLEPPCTKWTLSSPAEKHYAPFLLKPKAKVVVILLF 743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      922
                                                                                                                                                                                                                                                                                                                               TARQEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMI 177
                                                                                                                                                                                                                                                                                                                                                                                                      EKLFPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPF-ASLEGFRE 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LLLGGMARDPQGELLRAEALQSTFLLMSPRQLYEHFRG-DYQTHDIGWSEEQASTVLQAW 355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 694 GALLGLSLYGATLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQ 753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         754 RALFDLHQRFSSLKAVLPPPATQAPRTWLHYYRNWLQGIQAAFDQDWASGRITRHSYRNG 813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEDGALAYKLLIQTGDAQEPLDFSQLTTRKLVDREGLIPPELFYMGLTVWVSSDPLGLAA 873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SQANFYPPPPEWLHDKYDTTGE-NLRIPPAQPLEFAQFPFLLRGLQKTADFVEAIEGARA 932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VLFLGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQ 117
                                                                                                                                                                                                                     86
                                                                                                                                                                                   57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MDCSKSQGAVGLAGVLLVALSVAAGLGLCSLIGISFNAATTQVLPFLALGVGVDDVFLLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28 RAAPDRDYLHRPSYC-DAAFALEQISKGKATGRKAPLWLRAKFQRLLFKLGCYIQKNCGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LLDKAQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QRRFVQLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WDCAQSQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HAFTEALPG--TPLOERMGECLORIGISVVLTSINNMAAFLMAALVPIPALRAFSLOAAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VVGCTFVAVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGD-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTVPVGIAH-----LTATVQAFTHCEASSQHVVTILPPQAHLVPPP----SDPLGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ELFSPGGSTRDLLGQEEETRQKAACKSLPCARWNLAHFARYQFAPLLLQSHAKAIVLVLF
                                                                                                                                                                                   RSPPLREL--PPSYTPPARTAAPQILAGSL---KAPLWLRAYFQGLLFSLGCGIQRHCGK
                                                                                                                                               Gaps
                                                                                                                                               78;
                                                                                                           Length 1434;
                                                                                                         Query Match 53.2%; Score 3337; DB 8; Length 14 Best Local Similarity 53.1%; Pred. No. 6.3e-266; Matches 672; Conservative 206; Mismatches 309; Indels
             STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
amino acid
                                   ; TOPOLOGY:
; MOLECULE TYPE
US-08-954-701A-10
                                                                                                                                                                                                                                                                                                                               118
                                                                                                                                                                                                                                                                                                                                                                   147
                                                                                                                                                                                                                                                                                                                                                                                                     178
                                                                                                                                                                                                                                                                                                                                                                                                                                        207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        923
```

```
1163 FFGPCPEVSPANGLNRLPTPSPE--PPPSVVRPAVPPGHTNNGSDSSDSEXSQTTVSGI 1220
 1043 VMVLALMTVELFGMMGLIGIKLSAVPVVILIASVGIGVEFTVHVALAFLTAIGDKNHRAM 1102
                                                                                        1113 ILGPPPEVI-----QMYKESPEILSPP-----APQGGGLRWGASSSLPQSFARVTTS-- 1159
                                                                                                                                                   ------TSSGNLS 1194
                                                                                                                                                                        HALEHTFAPVTDGAISTLLGLLMLAGSHFDFIVRYFFAALTVLTLLGLLHGLVLLPVLLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARB: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATE:
APPLICATION NUMBER: US/10/421,446
FILING DATE: 22-APr-2003
CLASSIFICATION: «Unknown»
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Albritton
Suite 3400
                                                                                                                                                                                                                                                                                                                                                                            GOODRICH, LISA V
JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
ADDRESSEE: Flehr, Hobbach, Test, Albritton
STREET: Four Embarcadero Center, Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/09/724,631
FILING DATE: 28-No. US20030186309A1-2000
APPLICATION NUMBER: US/08/656,055
FILING DATE: 1996-05-31
APPLICATION NUMBER: OB/540,406
FILING DATE: UD&NOWN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 53.2%; Score 3337; DB 14; Best Local Similarity 53.1%; Pred. No. 6.3e-266; Matches 672; Conservative 206; Mismatches 309;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REGISTRATION NUMBER: 20015
REFERENCE/DOCKET NUMBER: a60190-1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NO: 10:
                                                                                                                                                                                                                                                                                                                  ; Sequence 10, Application US/10421446
; Publication No. US20030186309A1
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: Rowland, Bertram I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 1434 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID
US-10-421-446-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEPHONE: 415-781-1989
                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: SCOTT, MATHEW P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: 415-398-3249 INFORMATION FOR SEQ ID NO: 10:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: US
                                                                                                                                                                                                                                          ---PG 1282
                                                                                                                                                                                                               SRGPG 1199
                                                                                                                                                                                                                                                                                                       US-10-421-446-10
                               1053
                                                             1103
                                                                                                                                                   1160
                                                                                                                                                                                                               1195
                                                                                                                                                                                                                                           1281
                                                     g
                                                                                                               В
                                                                                                                                                                        셤
 셤
                            ò
                                                                                8
                                                                                                                                                   à
                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VLFLGLLAFGALALGLRMAIIETWLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQ 117
                                                                                                                       LLLGGMARDPQGELLRAEALQSTFLLMSPRQLYEHFRG-DYQTHDIGWSEEQASTVLQAW 355
                                                                                                                                                                                                                                                                                                                                                                   415
                                                                                                                                                                                                                                                                                                                                                                                                                               475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VVVFNFAMVILIFPALLSMDLYRREDRRLDIFCCFTSPCVSRVIQVEPQAYTEPHSNTRY 625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SPPPPYTSHSFAHETHITMQSTVQLRTEXDPHTHVYYTTAEPRSEISVQPVTVTQDNLSC 685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |:|||:|||:|||:||| HLLYDLHKSPSNVKYVMLBENKQLPQOMMLHYFRDWLQGLQDAFDSDWETGRIMPNNYKNG 862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EKLFPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPF-ASLEGFRE 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HAFTEALPG--TPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAI 533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           587 GTVPVGIAH-----SDPLGS 633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      634 ELFSPGGSTRDLLGQEEETRQKAACKSLPCARWNLAHFARYOFAPLLLQSHAKAIVLVLF 693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 694 GALLGLSLYGATLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQ 753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RALFDIHORFSSLKAVLPPPATQAPRTWIHYYRNWLQGIQAAFDQDWASGRITRHSYRNG 813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEDGALAYKLLIQIGDAQEPLDFSQLTTRKLVDREGLIPPELFYMGLIVWVSSDPLGLAA 873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SQANFYPPPPEWLHDKYDTTGE-NLRIPPAQPLEFAQFPFLLRGLQKTADFVEAIEGARA 932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACAEAGQAGVHAYPSGSPFLFWEQYLGLRRCFLLAVCILLVCTFLVCALLLLLNPWTAGLI 992
                                             57
                                                                         86
                                                              TARQEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMI
                                            RSPPLREL -- PPSYTPPARTAAPQILAGSL --- KAPLWLRAYFOGLLFSLGCGIQRHCGK
                                                                                                                                                                                                                                                                                      LLDKAQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEE
                                                                                                                                                                                                                                                                                                                                                                                                               QRRFVQLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WDCAQSQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                534 VVGCTFVAVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGD----
               Gaps
               78;
               309; Indels
Pred. No. 6.3e-266; Mismatches 309
1 Similarity 53.1%; Pro 672; Conservative 206;
                                                                                                       28
                                                                                                                                                                                                                                                         207
                                                                                                                                                                                               147
                                                                                                                                                                                                                            178
                                                                                                                                                                                                                                                                                       237
                                                                                                                                                                                                                                                                                                                    267
                                                                                                                                                                                                                                                                                                                                                   297
                                                                                                                                                                                                                                                                                                                                                                               327
                                                                                                                                                                                                                                                                                                                                                                                                             356
                                                                                                                                                                                                                                                                                                                                                                                                                                           386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               933
                                                                                                                                                                 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          993
Best Local
Matches 67
                                                                   셤
                                                                                                       8
                                                                                                                               g
                                                                                                                                                                                       g
                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                        요
                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

20; Gaps 78; Length 1434;

...

6 8 6 8 6 8 6 8 6 8 6 8

```
1194
                                                                                                                                                                  1113 ILGPPPEVI-----QMYKESPRILSPP----APQGGGLRWGASSSLPQSFARVTTS--
                                                                                                  1163 FFGPCPEVSPANGLNRLPTPSPE--PPPSVVRFAVPPGHTNNGSDSSDSEYSSQTTVSGI
                                                                                                                                           -----MTVAIHPPPLPGAYIHP-APDEPPWSPAA---TSSGNLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tumor Suppressor Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP STREET: Two Embarcadero Center, Eighth Floor CITY: San Francisco STATE: California COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Hyman, Laurence J.
REGISTRATION NUMBER: 35, 551
REFERENCE/DOCKET NUMBER: 015280-278200US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/10/302,279
FILING DATE: 22-No. US20030171566A1-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Vorechovsky, Igor
Holmberg-Lindstrom, Erika
DF INVENTION: A Basal Cell Carcinoma
OF SEQUENCES: 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: 16-MAY-1997
APPLICATION NUMBER: US 60/017,906
FILING DATE: 17-MAY-1996
APPLICATION NUMBER: AU PO0011
FILING DATE: 21-MAY-1996
APPLICATION NUMBER: AU PO0363
FILING DATE: 07-UN-1996
APPLICATION NUMBER: US 60/019,765
FILING DATE: 14-UNN-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUW TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US 08/857,636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Wicking, Carol
Christiansen, Jeffrey
Zaphiropoulos, Peter G
Gailani, Mae R.
Shanley, Susan Mary
Chidambaram, Abirami
                                                                                                                                                                                                                                                                                                                                                                Sequence 60, Application US/10302279
Publication No. US20030171566A1
GENERAL INFORMATION:
APPLICANT: Dean, Michael Carlton
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEPHONE: (415) 576-0200
TELEFAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 60:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 22-No. US200
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 1296 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRANDEDNESS: <Unknown>TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hahn, Heidi Eve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION DATA:
                                                                                                                                                                                                                             1195 SRGPG 1199
                                                                                                                                                                                                                                                                  ---PG 1282
                                                                                                                                                                                                                                                                                                                               RESULT 11
US-10-302-279-60
                                                                                                                                                                                                                                                                     1281
                                                                                                                                                1160
                                                                                                    g
                                                                                                                                                                             g
                                                                ò
                                                                                                                                           8
                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             983 ICNNYTSLGLSSYPNGYPFLFWEQYISLRHWILLSISVVLACTFLVCAVFLLNPWTAGII 1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1053 HALEHTFAPVTDGAISTLLGLLMLAGSHFDFIVRYFFAALTVLTLLGLLHGLVLLPVLLS 1112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                923 SQANIRPHRPEWVHDKADYMPETRLRIPAAEPIEYAQFPFYLNGLRDTSDFVEAIEKVRV 982
                                                                                                                                                                                     QRRFVQLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLR 415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOANFYPPPPEWLHDKYDTTGE-NLRIPPAOPLEFAOFPFLLRGLOKTADFVEAIEGARA 932
                                                                                                                                                                                                                                                                                                                               LLDKAQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEE 296
                                                                                                                                                                                                                                                                                                                                                                                                              LILLGGMARDPQGELLRAEALQSTFLLMSPRQLYEHFRG-DYQTHDIGWSEEQASTVLQAW 355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WDCAQSQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLA 475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              634 ELFSPGGSTRDILIGGEEETRQKAACKSLPCARWNLAHFARYQFAPLILLQSHAKAIVIJVLF 693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GALLGLSLYGATLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQ 753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RALFDLHORFSSLKAVLPPPATOAPRTWLHYYRNWLOGIQAAFDQDWASGRITRHSYRNG 813
                                                                                     58 VLFLGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQ 117
                                                                                                          TARQEGENILIPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMI 177
                                                                                                                                                                                                                                                  EKLFPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPF-ASLEGFRE 236
                                             86
                                                                                                                                                                                                                                                                         626 SPPPPYTSHSFAHETHITMQSTVQLRTEYDPHTHVYYTTAEPRSEISVQPVTVTQDNLSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEDGALAYKLLIQTGDAQEPLDFSQLTTRKLVDREGLIPPELFYMGLTVWVSSDPLGLAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VLVLAMMTVELFGIMGFLGIKLSAIPVVILVASVGIGVEFTVHVALGFLTTQGSRNLRAA
                                           28 RAAPDRDYLHRPSYC-DAAFALEQISKGKATGRKAPLWLRAKFORLLFKLGCYIOKNCGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     587 GTVPVGIAH-----LTATVQAFTHCEASSQHVVTILPPQAHLVPPP----SDPLGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACAEAGQAGVHAYPSGSPFLFWEQYLGLRRCFLLAVCILLVCTFLVCALLLLNPWTAGLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HAFTEALPG--TPLOERMGECLORTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VVGCTFVAVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGD-----
        RSPPLREL--PPSYTPPARTAAPQ1LAGSL---KAPLWLRAYFQGLLFSLGCG1QRHCGK
                                                                                                                                                                                                                                                                                       207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             874
                                                                                                                                                                  118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           933
                                                                                                                                                                                                                                                  178
                                                                                                                                                                                                                                                                                                                                 237
                                                                                                                                                                                                                                                                                                                                                                                                              297
                                                                                                                                                                                                                                                                                                                                                                                                                                                      327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              814
```

셤

g

ò

a

ò

ВЪ

8 8 8

Š

원

음 중 음

ઠે

9 9 9

ò

g

ð

셤

ò

```
----KESPEI 1130
                                                                                                                                                                                                                                                                                                                       1078 TTVSGLSEELRHYEAQQGAGGPAHQVIVEATENPVFAHSTVVHPESRHHPPSNPKQQPHL 1137
                                                                                                                                                                                                                                                                                                                                                                                                       1138 DSGSLPPGROGOOPRRDPPRKGLWPPLYRPRRDAFEISTEGHSGPSNRARWGPRGARSHN 1197
                                                                                                                                                                                                                                  1018 VLLPVLLSFFGPYPEVSPANGLNRLPTPSPEPPSVVRFAMPPGHTHSGSDSSDSEYSSQ 1077
                                        18 ARTAAPQILAGSL---KAPLWLRAYFQGLLFSLGCGIQRHCGKVLFLGLLAFGALALGLR 74
                                                                                                                                                                                                                                                                                                                                                                 1045 GSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSHFDFIVRYFFAALTVLTLLGLLHGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 1311;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1145 -----ASSSLPQSFARVTT----SMTVAIHPPPLPGAYIHP 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 35.6%; Score 2235; DB 8; Best Local Similarity 39.9%; Pred. No. 7.1e-175; Matches 470; Conservative 213; Mismatches 402;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       their Use
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 4, Application US/08954701A
Publication No. US20030032085A1
GENERAL INFORMATION:
APPLICANT: GOOTT, MATHEW P
APPLICANT: GOOTT, MATHEW P
APPLICANT: JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and the
NUMBER OF SEQUENCES:
CORRESSEE: FOLEY, Hoag & Eliot
ADDRESSEE: FOLEY, Hoag & Eliot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: ASCII(text)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/954,701A
RILING DATE: 20-0CT-1997
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Vincent, Matthew P.
REGISTRATION NUMBER: 36709
REFINENCE/DOCKET NUMBER: SUV-003.08
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION:
                                                                                                                                                                                         VLLPVLLSILGPPPEV------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII(text)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E: Foley, Hoag & Eliot
One Post Office Square
                                                                                                                                                                                                                                                                              -----XWÖI-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 1311 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: 617-832-7000
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTER.STICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            , MOLECULE TYPE: protein US-08-954-701A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: One E
CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ropology:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 12
US-08-954-701A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY:
                                                                                                                                                                                         1105
                      985
                                                                                                                                                                                                                                                                              1121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                   셤
                                                                                                      ò
                                                                                                                                      셤
                                                                                                                                                                                       8
                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                염
                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                          17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301 YACLIMIRWDCSKSQGAVGIAGVILVALSVAAGIGLCSLIGISFNAATTQVLPFIALGVG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 110 YTSQMLIQTARQEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIE 169
                                                                                                                                                                                                                                                                                                                                                                                     170 NGMIEWMIEKLFPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPF- 228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          229 ASLEGFRELLDKAQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSH 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KFMHWQEELLIGGMARDPQGELLRAEALQSTFLLMSPRQLYEHFRG-DYQTHDIGWSEEQ 347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VDDVFLLAHAFTEALPG--TPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALR 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AFSLQAAIVVGCTFVAVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELG 585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                D-----GTVPVGIAH-----LTATVQAFTHCEASSQHVVTILPPQAHLVPPP-- 627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DTHDNTRYSPPPYSSHSFAHETQITMQSTVQLRTBYDPHTHVYYTTAEPRSEISVQPVT 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --SDPLGSELFSPGGSTRDLLGQEEETRQKAACKSLPCARWNLAHFARYQFAPLLLQSHA 685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541 VTQDTLSCQSPESTSSTRDLLSQFSDS--SLHCLEPPCTKWTLSSFÄEKHYAPFLLKPKA 598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQG 745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRTWLHYYRNWLQGIQAAFDQDWASGRI 805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      559 A-DYPNIQHLLYDLHRSFSNVKYVMLEENKQLPKAMLHYPRDWLQGLQDAFDSDWETGKI 717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  806 TRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLTTRKLVDREGLIPPELFYMGLTVWVS 865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SDPLGLAASQANFYPPPFEWLHDKYDTTGE-NLRIPPAQPLEFAQFPFLLRGLQKTADFV 924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGLRRCFLLAVCILLVCTFLVCALLLL 984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ASTVLQAWQRRFVQLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLA 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YACVTMLRWDCAQSQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIG 467
                                                                                                                                                                                                                                                                                                                             FNPQLMIQTPKEEGANVLTTEALLQHLDSALQASRVHVYMYNRQWKLEHLCYKSGELITE 61
                                                                                                                                                                                                                                                          Gaps
                                                       LOCATION: 1..1296
OTHER INFORMATION: /note= "amino acids encoded by human nevoid basal cell carcinoma syndrome (NBCCS) (PATCHED (PTC)) CDNA"
SEQUENCE DESCRIPTION: SEQ ID NO: 60:
                                                                                                                                                                                                             Query Match

48.6%; Score 3048; DB 14; Length 1296;
Best Local Similarity 49.0%; Pred. No. 4.2e-242;
Matches 610; Conservative 192; Mismatches 261; Indels 182;
MOLECULE TYPE: protein FEATURE:
                                          NAME/KEY:
                                                                                                                                                                     US-10-302-279-60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     599
```

ઠે 셤 8 셤 8

g ò 셤 요

g

ઠે 셤 ò

δ

셤

셤

ò

g

ò

셤 ò 셤 Š

ઠે

19;

용 Š 셤

요

ò

상 원 à g à g ò 쉽

셤

8

셤

8

g

8

```
1064 AASECGFVARLFLRLLLDIVFLGLIDGLLFFPIVLSILGPAAEVRPI--EHPERLSTPSP 1121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HLOAALTASKVQVSLYGKSWDLNKICYKSGVPLIEN-GMIEWMIEKLFPCVILTPLDCFW 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EGAKLOGGS--AYLPG-RPDIQWINLDPEQLLEELG----PFASLEGFRELLDKAQVG 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    75 MAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTARQEGENILTPEALGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18 ARTAAPQILAGSL---KAPLWLRAYFQGLLFSLGCGIQRHCGKVLFLGLLAFGALALGLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            94;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 1311;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/754,032 FILING DATE: 03-Jan-2001 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                  Albritton &
Suite 3400
                                       GGGLRWGASSSLPQSFARVTTSMT 1161
                                                                                                                                                                                                                                                                             and their Use
                                                                Query Match 35.6%; Score 2235; DB 10; Best Local Similarity 39.9%; Pred. No. 7.1e-175; Matches 470; Conservative 213; Mismatches 402;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/540,406
APPLICATION NUMBER: US/08/540,406
ATTORNEY/AGENT INFORMATION:
NAME: Rowland, Bertram I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REGISTRATION NUMBER: 20015
REFERENCE/DOCKET NUMBER: a60190-1
                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
ADDRESSEE: Flehr, Test,
STREET: Four Embarcadero Center,
                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4
                                                                                                                                                                                                                                                                               Genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELECOMMUNICATION INFORMATION TELEPHONE: 415-781-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 1311 amino acids
                                                                                                                                                                  Sequence 4, Application US/09754032 Publication No. US20030148388A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                       GOODRICH, LISA V
JOHNSON, RONALD L
TITLE OF INVENTION: Patched
                                                                                                                                                                                                                        APPLICANT: SCOTT, MATHEW P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 415-398-3249
INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                    CITY: San Francisco
STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                   ZIP: 94111
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY:
                                       1137 0-
                                                                                                                                RESULT 13
US-09-754-032-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-754-032-4
                                                                           1122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 191
                                                                       g
     g
                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGSHFDFIVRYFFAALTVLTLIGLIHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAP 1136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IPVVILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLML 1076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        YLGLRRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLAMMTVELFGIMGFLGIKLSA 1016
                                                                                                                                                    SAYMKKPCLDPTDPHCPATAPNKKSGHIPDVAAELSHGCYGFAAAYMHWPEQLIVGGATR 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        943
EGAKLOGGS--AYLPG-RPDIQWTNLDPEQLLEELG-----PFASLEGFRELLDKAQVG 244
                                                                                                                                                                                                                          SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481 ALPGTPLOERMGECLORIGISVVIJISINNMAAFLMAALVPIPALRAFSLOAAIVVGCTFV 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AVMLVFPAILSIDIRRRHCQRLDVLCCF--SSPCSAQVIQILPQELGDGTVPVGIAHLTA 598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAP 778
                                                        MAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTARQEGENILTPEALGL 134
                                                                                            101 SAQIHTRVDQLWVQEGGRLEAELKYTAQALGEADSSTHQLVIQTAKDPDVSLLHPGALLE 160
                                                                                                                                                                                                                                                                                                                                                   DPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFVQLAQ 364
                                                                                                                                                                                                                                                                                                                                                                                                                           EALPE---NASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRW-DCAQ 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ------SENVTKTO 651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLGGMAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   838 QLTT-RKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LRIPPAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIEN-GMIEWMIEKLFPCVILTPLDCFW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SILLVFPAMISLDLRRRSAARADLLCCLMPESP-----LPKK----KIP-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TVQAFTHCEASSQHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KSLPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RTWLHYYRNWLQGIQAAFDQDWASGRITRHSY-RNGSEDGALAYKLLIQTGDAQEPLDFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         767 KFWLSLFRDWLLDLQVAFDKEVASGCITQEYWCKNASDEGILAYKLMVQTGHVDNPIDKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1017
                                                        75
                                                                                                                                                                                                                                           221
                                                                                                                                                                                                                                                                                                               278
                                                                                                                                                                                                                                                                                                                                                   305
                                                                                                                                                                                                                                                                                                                                                                                       338
                                                                                                                                                                                                                                                                                                                                                                                                                           365
                                                                                                                                                                                                                                                                                                                                                                                                                                                            398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1077
                                                                                                                                135
                                                                                                                                                                                                       194
                                                                                                                                                                                                                                                                             245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           629
```

g ò g

8

엄 δ g

ઠે

요

Š

g

ઠે

g

ò

쉽

ઠે

유

8

19;

```
Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGSHFDFIVRYFFAALTVLTLIGLLHGLVLLPVLLSIIGPPPEVIQMYKESPEILSPPAP 1136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YLGLRRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLAAMMTVELFGIMGFLGIKLSA 1016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1064 AASECGFVARLFLRLLLDIVFLGLIDGLLFFPIVLSILGPAAEVRPI--EHPERLSTPSP 1121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        599 TVQAFTHCEASSQHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAAC 658
                                                                                                                                                                                                                                                                                                                                659 KSLPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVP 718
                                                                                                                                                                                                                                                                                                                                              RGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAP 778
                                                                                                                                                                                                                                                                                                                                                                                            ENTDEHEFLSROEKYFGFYNMYAVTOGNFEYPTNOKLLYEYHDOFVRIPNIIKNDNGGLT 766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QLTT-RKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGEN 896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LRIPPAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQ 956
                                                         EALPE---NASQQIHAFSSTILDDILHAFSEVSAARVVGGYLLMLAYACVTMLRW-DCAQ 420
                                                                                                        SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE 480
                                                                                                                                                                                     ALPGIPLQERMGECLQRIGISVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV 540
                                                                                                                                                                                                                                    AVMLVFPAILSLDLRRRHCQRLDVLCCF--SSPCSAQVIQILPQELGDGTVPVGIAHLTA 598
                                                                                                                                                                                                                                                                                                                                                                                                                           RIWLHYYRNWLQGIQAAFDQDWASGRITRHSY-RNGSEDGALAYKLLIQTGDAQEPLDFS 837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LEIKKSSPLIYTQLPPYLSGLSDTXSIKTLIRSVRDLCLKYEAKGLPNFPSGIPFLFWEQ 943
                                             DPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFVQLAQ 364
                                                                                                                                                                                                                                                                                                         QAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLGGMAR 304
                                                                                                                                                                                                                                                                                                                                                                                                                                          IPVVILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLML
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---GGGLRWGASSSLPQSFARVTTSMT 1161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0----0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1122
                                                                                                                                                                                                              518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1137
                                              305
                                                                    338
                                                                                          365
                                                                                                                  398
                                                                                                                                                               458
                                                                                                                                                                                        481
                                                                                                                                                                                                                                                           578
                                                                                                                                                                                                                                                                                                                                                       652
                                                                                                                                                                                                                                                                                                                                                                               719
                                                                                                                                                                                                                                                                                                                                                                                                                            779
                                                                                                                                                                                                                                                                                                                                                                                                                                                     767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        957
                                                                                                                                         421
                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                      707
                                                                                                                                                                                                                                                                                                                                                       요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                쇰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                  셤
                                                                                          ሯ
                                                                                                               q
                                                                                                                                                          셤
                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                          음
                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ם
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        용
                    셤
                                             ઠે
                                                                                                                                         ઠે
                                                                                                                                                                                     ઠ
                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
```

APPLICANT: SCOTT, MATHEW P GOODRICH, LISA V JOHNSON, RONALD L

Sequence 4, Application US/10421446 Publication No. US20030186309A1 GENERAL INFORMATION:

US-10-421-446-4

```
AALALSELEKGNIEGGRISIMIRAWLQEQLFILGCFLQGDAGKVLFVAILVLSTFCVGLK 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         101 SAQIHTRVDQLWVQEGGRLEAELKYTAQALGEADSSTHQLVIQTAKDPDVSLLHPGALLE 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MAIIBTNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTARQEGENILTPEALGL 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EGAKLOGGS--AYLPG-RPDIQWINLDPEQLLEELG----PFASLEGFRELLDKAQVG 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |||||| || ::|| ::||||||| ::||| ::||| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::|| ::||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLGGMAR 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SAYMKKPCLDPTDPHCPATAPNKKSGHIPDVAAELSHGCYGFAAAYMHWPEQLIVGGATR 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STSALRKARXLQTVVQLMGEREMYEYWADHYKVHQIGWNQEKAAAVLDAWQRKFAAEVR 397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EALPE---NASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRW-DCAQ 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFVQLAQ 364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18 ARTAAPQILAGSL---KAPLWLRAYFQGLLFSLGCGIQRHCGKVLFLGLLAFGALALGLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HLOAALTASKVQVSLYGKSWDLNKICYKSGVPLIEN-GMIEWMIEKLFPCVILTPLDCFW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       94;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1311;
                                                                                                                                           & Herbert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Version #1.30
                                                                                                                                                Albritton
Suite 3400
TITLE OF INVENTION: Patched Genes and their Use NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS: ADDRESSEE: Flehr, Hobbach, Test, Albritton STREET: Four Embarcadero Center, Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/09/724,631
FILING DATE: 28-NO. US20030186309A1-2000
PAPLICATION NUMBER: US/08/656,055
FILING DATE: 1996-05-31
APPLICATION NUMBER: 08/540,406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              35.6%; Score 2235; DB 14;
larity 39.9%; Pred. No. 7.1e-175;
Conservative 213; Mismatches 402;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/421,446
FILING DATE: 22-Apr-2003
CLASSIFICATION: <UNKNOWN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: a60190-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: Patentin Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: Rowland, Bertram I
REGISTRATION NUMBER: 20015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-781-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 1311 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: 415-398-3249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRANDEDNESS: single
                                                                                                                                                                                                                                         CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                       ZIP: 94111
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: amino acid
                                                                                                                                                                                                                                                                                                                             as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
tes 470; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INFORMATION FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-421-446-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
```

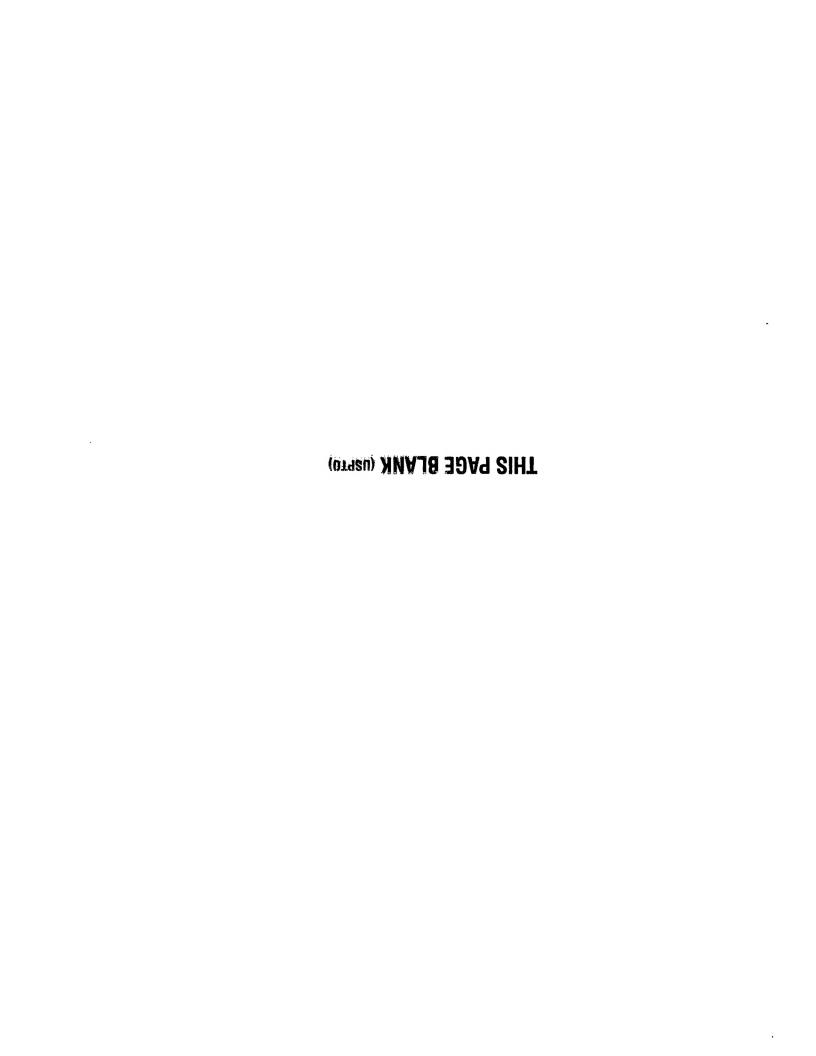
```
ORGANISM: Drosophila melanogaster
    ; UKGANIDEN: US-09-898-533-3
                                                                                                                                                                                                                                    214
                                                                                                                                                                                                                                                          243
                                                                                                                                                                                                                                                                              273
                                                                                                                                                                                                                                                                                                                                               363
                                                                                                                                                                                                                                                                                                                                                                                                               453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              952
                                                                                                                                                                                                              194
                                                                                                                                                                                                                                                                                                                                                                                                                                     478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             658
                                                                                             g
                                                                                                                                          g
                                                                                                                                                                                    원
                                                                                                                                                                                                                               ద
                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                          요
                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                         ð
                                                                                                                                                                  ò
                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1121
                                                                                                                                                                                                                                                                                                                                                                                                                YLGLRRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLAMMTVELFGIMGFLGIKLSA 1016
            480
                                                                                                                                                                                         718
                                                                                                                                                                                                                                    778
                                                                                                                                                                                                                                                                                                                                      706
                                                                                                                                                                                                                                                          766
                                                                                                                                                                                                                                                                                837
                                                                                                                                                                     651
                         | :|| | | :::| |||:| | OAGDVPREERTGLVLKKSGLSVLLASLCNVMAFLAAALLPIPAFRVFCLQAAILLLENLG
                                                                                                                                                                                        KSLPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVP
                                                                                                                                                                                                       944 YLYLRTSLLLALACALAAVFIAVMVLLLNAWAAVLVTLALATLVLQLLGVWALLGVKLSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1064 AASECGFVARLFLRLLDIVFLGLIDGLLFFPIVLSILGPAAEVRPI--EHPERLSTPSP
                                                                                                  541 AVMLVPPAILSLDLRRRHCQRLDVLCCF--SSPCSAQVIQILPQELGDGTVPVGIAHLTA
                                                                                                                                                           RGTKEHAPLSAQLRYPSLYBVALVTQGGPDYAHSQRALPDLHQRFSSLKAVLPPPATQAP
                                                                                                                                                                                                                                                                                                                                                                                          884 LEIKKSSPLIYTOLPFYLSGLSDTXSIKTLIRSVRDLCLKYEAKGLPNFPSGIPFLFWEO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGSHFDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAP
            SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE
                                                       ALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                             599 TVQAFTHCEASSOHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAAC
                                                                                                                                                                                                                                                                               RIWLHYYRNWLOGIQAAFDQDWASGRITRHSY-RNGSEDGALAYKLLIQTGDAQEPLDFS
                                                                                                                                                                                                                                                                                                                         QLTT-RKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPFEWLHDKYDTTGEN
                                                                                                                                                                                                                                                                                                                                                                     LRIPPAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                            1017 IPVVILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLML
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HEDGEHOG RECEPTOR
                                                                                                                         -----KIP----KIP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1137 Q------GGGLRWGASSSLPQSFARVTTSMT 1161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1122 KCSPIHPRKSSSSGGGDKSSRTSKSAPRPCAPSLTTIT 1160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 3, Application US/09898533;
Sequence 3, Application US/09898533;
Patent No. US20020106656A1
GENERAL INFORMATION:
APPLICANT: Gemmill, Robert M.
TITLE OF INVENTION: FACCHED
TITLE OF INVENTION: PATCHED
TITLE OF INVENTION: PATCHED
TITLE REPERENCE: 93445-00004;
CURRENT APPLICATION NUMBER: US/09/898,533
CURRENT FILING DATE: 2001-07-02
PRIOR PAPLICATION NUMBER: US/09/268,140
PRIOR FILING DATE: 2000-03-12
NUMBER OF SEQ ID NOS: 46
SOFTWARE: Patentin Ver: 2.0
SEQ ID NO 3
LEMBET HERE
                                                                                                              RESULT 15
US-09-898-533-3
                                                                                                                                                                                                                                                                                                                                                                                                                957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1077
                                                       481
                                                                             518
                                                                                                                         578
                                                                                                                                                                                        629
                                                                                                                                                                                                              652
                                                                                                                                                                                                                                                                                                     767
                                                                                                                                                                   618
                                                                                                                                                                                                                                    719
                                                                                                                                                                                                                                                                               779
                                                                                                                                                                                                                                                                                                                           838
                                                                                                                                                                                                                                                                                                                                                                      897
            421
                                                                                                                                                                                                                                                                                                                                        d
                                                                       g
                                                                                                                   g
                                                                                                                                                              g
                                                                                                                                                                                  ò
                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                   d
                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                     원장
                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                              g
                                                      δ
                                                                                          ∂
                                                                                                                                            ò
                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

```
LEWEQYLGLRRCF-LLAVCILLVCTFLVCALLLLNPWTAGLIVLVLAMMTVELFGIMGFL 1010
                                                                                                                                                                       134
                                                                                                                                                                                             94 SAQIHSKVHQLWIQBGGRLEAELAYTQKTIGEDESATHQLLIQTTHDPNASVLHPQALLA 153
                                                                                                                                                                                                                                                         193
                                                                                                                                                                                                                                                                                                   213
                                                                                                                                                                                                                                                                                                                                           242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                943
                                                                                                                                                                                                                                                                                                                                                                                                                             VCOAYVCRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLGGM 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                303 ARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFVQL 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             655 KAACKSLPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALT 714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPA 774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       891
                                                                                                                           93
                                                                                                                                                                     75 MAIIETNIBQIMVEVGSRVSQELHYTKEKIGEBAAYTSQMLIQTARQEGENILTPEALGL
                                                                                                                                                                                                                                                                               PVRGQSSVGVAGVLLMCFSTAAGLGLSALLGIVFNAASTQVVPFLALGLGVDHIFMLTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              538 TFVAVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQ----VIQILPQELGDGTVPVGIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18 ARTAAPQILAGSL---KAPLWLRAYFQGLLFSLGCGIQRHCGKVLFLGLLAFGALALGLR
                                                                                                              34 AQVALDQIDKGKARGSRTAIYLRSVFQSHLETLGSSVQKHAGKVLFVAILVLSTFCVGLK
                                                                                                                                                                                                                                                         HLOAALTASKVQVSLYGKSWDLNKICYKSGVPLIEN-GMIEWMIEKLFPCVILTPLDCFW
                                                                                                                                                                                                                                                                                                                                             EGAKLOG--GSAYLPG-RPDIOWTNLDP-----EQLLEELGPFASLEGFRELLDKAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AQEALPENA - - - - SQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRW-D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FTEALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           595 HLTATVQAFTHCEASSQHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      775 TQAPRTWLHYYRNWLQGIQAAFDQDWASGRITRHS-YRNGSEDGALAYKLLIQTGDAQEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          769 GGLPDFWLLLFSEWLGNLQKIFDEEYRDGRLTKECWFPNASSDAILAYKLIVQTGHVDNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LDFSQLTTRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLH--DKYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTGENLRI PPAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | :|||||::||||||| | |: ||
569 NIAAALLVFPAMISLDLRRRTAGRADIFCCCFPVWKBQPKVAPPVLPLNNNNG------
                                         90 ;
    Length 1286;
                                         Indels
Query Match 31.8%; Score 1992; DB 9;
Best Local Similarity 37.4%; Pred. No. 8.4e-155;
Matches 429; Conservative 226; Mismatches 411;
```

```
944 IFWEQYMTLRSSLAMILACVLLAALVLV-SLLLLSVWAAVLVILSVLASLAQIFGAMTLL 1002
8 6 6 6 6 6
```

Search completed: June 14, 2005, 16:27:58 Job time : 185 secs

1131 LSPPAP 1136 :| |:| 1121 ISTPSP 1126



Sequence 44, Appl Sequence 44, Appl Sequence 44, Appl Sequence 44, Appl Sequence 168, Appl Sequence 168, Appl Sequence 11, Appl

0

Word size Searched:

Minimum DB 8 Maximum DB 8

Database

Perfect score: Sequence: Scoring table:

OM protein

on:

Run

Sequence 1 Sequence 1 Sequence 1 Sequence 1

Sequence Sequence S

Sequence

Sequence Sequence Sequence Sequence Sequence Sequence

Sequence

Sequence 11, Appl Sequence 11, Appl Sequence 8, Appli Sequence 6, Appli Sequence 6, Appli Sequence 6, Appli Sequence 7, Appli Sequence 4, Appli Sequence 4, Appli Sequence 4, Appli Sequence 4, Appli Sequence 119101, Sequence 125948, Sequence 125948, Sequence 125948, Sequence 229148, Sequence 229148, Sequence 229148, Sequence 229148, Sequence 22918, Sequence 2191856, Sequence 218187, Sequence 11811, A Sequence 11818, Appl Sequence 11818, Appl Sequence 11841, A Sequence 1184, Appl Sequence 1184, Appl Sequence 1184, Appl Sequence 1184, Appl Sequence 1184, Appl Sequence 1184, Appl Sequence 11843, Appl Sequence 11843, Appl Sequence 11843, Appl Sequence 29, Appl Sequence 11843, Appl Sequence 29, Appl Sequence 11843, Appl Sequence 11843, Appl Sequence 29, Appl Sequence 11843, Appl Sequence 29, Appl Sequence 29, Appl Sequence 29, Appl

Sequence 12, Appl Sequence 33879, A Sequence 9, Sequence 49,

100.0

100 8 7 8 9 11 11 11 11 11

Score

Result No.

Pred. No.

```
1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                                                                                                                                                                                                                         900
                                                                                                                         900
                                                                                                                                                        900
                                                                                                                                                                                                                                                  720
                                                                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                                                                                780
                                                                                                                                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                                                                                                                                                            840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     960
                                                           LRWGASSSLPQSFARVTTSMTVAIHPPPLPGAYIHPAPDEPPWSPAATSSGNLSSRGPGP
                 SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE
                                                                                                                         AVMLVPPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                           QAFTHCEASSQHVVIILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGGEEFTRQKAACKS
                                                                                                                                                                                                                                                     LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG
                                                                                                                                                                                                                                                                    TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPFWLHDKYDTGENLRIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PAQPLEFAQFPFILRGLQKTADFVEAIEGARAACAEAGQACVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLAMMTVELFGIMGFLGIKLSAIPVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FDFIVRYFFFAALTVLTLIGELHGLVLLPVLLSILGPPPEVIQMYKESPEILSPFAPQGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QAFTHCEASSQHVVT1LPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEETRQKAACKS
                                                                                                                                                                                                                                                                                                                 TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                                                                             WLHYYRNWLOGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                                                                                                                           TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGENLRIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FDFIVRYFFAALTVLTLIGLLHGLVLLPVLLSILGPPPEVIOMYKESPEILSPPAPQGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENES AND PROTEINS, AND USES RELATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Sequence 2, Application US/09909280A
| Patent No. US20020160375A1
| GENERAL INFORMATION:
| APPLICANT: BUMCROEL, David A.
| TITLE OF INVENTION: HUMAN PATCHED GENES AND PROTITILE OF INVENTION: THERETO
| FITLE REFERENCE: CIBT-P02-050
| CURRENT APPLICATION NUMBER: US/09/909,280A
| CURRENT FILING DATE: 1998-12-08
| PRIOR FILING DATE: 1998-12-08
| PRIOR FILING DATE: 1997-12-08
| NUMBER OF SEQ ID NOS: 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-909-280A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1201
                                                                                            481
                                                                                                                                                           541
                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                              841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1201
   121
                                                               481
                                                                                                                            541
                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    961
                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                    d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                엄청
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
9
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8 B 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                     අ
                                                     $ B $
                                                                                                                                                 g
                                                                                                                                                                                      ò
                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                             장염
                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              음
 31960, A
69254, A
623, App
4165, Ap
51177, A
171492,
68715, A
                                                                                                                                                         186, App
190164,
2, Appli
                                                                                                                                                                                                       46169, A
24086, A
1454, Ap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                            35, Appl
34, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GMARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GMARDEQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MTRSPPIRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTWLDPEQLLEELGPFASLEGFRELLDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                 KESULT 1

US-09-990-046-2

; Sequence 2, Application US/09990046

; Patent No. USZ0020156245A1

; GENERAL INCOMPATION:

; APPLICANT: de Sauvage, Frederic

; APPLICANT: Carpenter, David A.

; TITLE OF INVENTION: Patched-2

; TITLE OF INVENTION NUMBER: US/09/990,046

; CURRENT FILING DATE: 2001-11-20

; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: 09/293,505

; REQ ID NOS: 32

; NUMBER OF SEQ ID NOS: 32
                                                                                                                                                         Sequence 1
Sequence 2
Sequence 2
Sequence 4
Sequence 4
                 Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Seq
                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 1203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
US-10-029-386-31960
US-10-282-122A-69254
US-10-32-923-4165
US-10-732-923-4165
US-10-424-599-171492
US-10-424-599-171492
US-10-437-963-1.02663
US-10-239-316-35
US-10-239-316-34
US-10-729-3186
US-10-424-599-190164
US-10-424-599-190164
US-10-702-929-190164
US-10-702-929-190164
US-10-702-929-190164
US-10-702-929-190164
US-10-702-923-24086
US-10-707-701-46169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 1203; 100.0%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                    ALIGNMENTS
    Matches 1203; Conservative
   33332
3332
3332
3332
3332
3332
3331
3331
348
3531
3531
3531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; ORGANISM: Homo sapiens
US-09-990-046-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
    LENGTH: 1203
    ч
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
```

g

엄

ò

g

ò

엄 ò g ò

Š

g

à g

ò

```
1080
                                                                                                                               1080
                                                                                                                                                                                                                              1200
                                                                                                                                                                                  1081 FDFIVRYFFRALITULTLIGILHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG 1140
                                                                                                                                                                                                                                                 901 PAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL 960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1021 ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH
                                                   961 RRCFLLAVCILLVCTFLVCALLLINPWMAGLIVLVLAMMIVELFGIMGFLGIKLSAIPVV
                                                                                                ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH
                                                                                                                                                                                                                                LRWGASSSLPQSFARVITSMIVAIHPPPLPGAYIHPAPDEPPWSPAATSSGNLSSRGPGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                693 FGALLGLSLYGATLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Wicking, Carol
Christiansen, Jeffrey
Zaphiropoulos, Peter G.
Gailani, Mae R.
Shanley, Suean Mary
Chidambaram, Abirami
Vorechovsky, Igor
Holmberg-Lindstrom, Erika
TITLE OF INVENTION: A Basal Cell Carcinoma Tumor Suppressor Gene
NUMBER OF SEQUENCES: 84
                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 7, Application US/09990046

Sequence 7, Application US/09990046

Patent No. US20020156245A1

GRNERAL INFORMATION:

APPLICANT: Garbenter, David A.

TITLE OF INVENTION: Patched-2

FILE REFRERENCE: P1405R1

CURRENT APPLICATION NUMBER: US/09/990,046

CURRENT FILING DATE: 2001-11-20

PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: 09/293,505

PRIOR FILING DATE: EARLIER FILING DATE: 1999-04-15

NUMBER OF SEQ ID NOS: 32

SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1182;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7.8%; Score 94; DB 9; Le
100.0%; Pred. No. 7.3e-76;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               753 QRALFDLHQRFSSLKAVLPPPATQAPRTWLHYYR 786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QRALFDLHQRFSSLKAVLPPPATQAPRTWLHYYR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 60, Application US/10302279
Publication No. US20030171566A1
GENERAL INFORMATION:
APPLICANT: Dean, Michael Carlton
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity 100.0
Matches 94; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT ORGANISM: Mus musculus
                                                                                                                                                                                                                                                                                               1201 ATG 1203
                                                                                                                                                                                                                                                                                                                          ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 4
US-10-302-279-60
                                                                                                                                                                                                                                                                                                                                                                            RESULT 3
US-09-990-046-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-990-046-7
                                                                                                1021
                                                                                                                                                                                                                                                               1141
                                                                                                                                                                 1081
                                                                                                                                                                                                                                1141
                                                                                                                                                                                                                                                                                                                              1201
                                  196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                        음
                                                                                                                                                                                                                                                          qq
                                ò
                                                                g
                                                                                                8
                                                                                                                                                              ò
                                                                                                                                                                                              셤
                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      쉼
                                                                                                                                                                                                                                                               61 LGLLAFGALALGLRWAIIETNLEQLWVEVGSRVSQELHYTKEKLGEBAAYTSQMLIQTAR 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            840
                                                                                                                                                                                                                                              LGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR 120
                                                                                                                                                                                                                                                                                                              QEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL 180
                                                                                                                                                                                                                                                                                                                                    121 QEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIERMIEKL 180
                                                                                                                                                                                                                                                                                                                                                                            PPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK 240
                                                                                                                                                                                                                                                                                                                                                                                                241 AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301 GMARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TRKLVDREGLIPPELFYMGLIVWVSSDPLGLAASQANFYPPPFWLHDKYDTTGENLRIP 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PAQPLEFAQFPFLLRGLQXTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGI. 960
                                                                                                                                                                                                                                                                                                                                                                                                                                           AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGENLRIP 900
                                                                                                                                                                                9
                                                                                                                                                                                                               9
                                                                                                                                                                                                 1 MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFOGLLFSLGCGIORHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421 SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481 ALPGTPLQERMGECLQRTGTSVVLTSINNWAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721 TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GMARDPQGELLRABALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361 QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481 ALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541 AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541 AVMLVPPAIFSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QAFTHCEASSQHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WIHYYRNWLOGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                Gaps
                                                                                                                                                ö
                                                                                                                Score 900; DB 9; Length 1203,
                                                                                                                                                3; Indels
                                                                                                                                              0; Mismatches
                                                                                                                                 Pred. No.
                                                                                                              74.8%;
99.8%;
2.0
                                                                                                                             Best Local Similarity 99.8
Matches 1200; Conservative
 SOFTWARE: Patentin Ver.
                                                             ORGANISM: Homo sapiens
                                1203
                                                                ; ORGANISM: Hor
US-09-909-280A-2
                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                             181
                                             TYPE: PRT
                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
             SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                                                                Query Match
                                LENGTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                            g
                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                        임
                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
```

```
Publication US/09754032

Publication No. US2030149388A1

GENERAL INFORMATIS SCOTT, MATHEW P
APPLICANT: SCOTT, MATHEW P
GOODRICH, LISA V
JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCE NDESS: 19
CORRESPONDENCE FIERY, Hobbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 1.2%; Score 15; DB 8; Length 1434; Best Local Similarity 100.0%; Pred. No. 0.00061; Matches 15; Conservative 0; Mismatches 0; Indel8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/754,032
FILING DATE: 03-Jan-2001
CLASSIFCATION A35
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/540,406
FILING DATE: 06-OCT-1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFRAX: 415-798

TELECRAMINICATION: TELECRAMINICATION: TELECRAMINICATION INFORMATION: TELECRAMINICATION INFORMATION: TELECRAMINICATION INFORMATION: TELECRAMINICATION INFORMATION: TELEFRAX: 415-781-1989
                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:

CURRENT APPLICATION DATA:

PEDLICATION NUMBER: US/08/954,701A
FILING DATE: 20-0CT-1997
CLASSIFICATION: 435
ATTORNEY FAGENT INFORMATION:

NAME: Vincent, Matthew P.

RECISTRATION NUMBER: 36709
RECISTRATION NUMBER: 36709
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
LIENGTH: 1434 amino acids
                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         451 FNAATTOVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481 FNAATTOVLPFLALG 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CITY: San Francisco
STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY: linear
                               COUNTRY: UK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-954-701A-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-754-032-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LOCATION: 1..1296

CTHER INFORMATION: /note= "amino acids encoded by human nevoid basal cell carcinoma syndrome (NBCCS) (PATCHED (PTC)) cDNA"

SEQUENCE DESCRIPTION: SEQ ID NO: 60:
US-10-302-279-60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.2%; Score 15; DB 14; Length 1296;
100.0%; Pred. No. 0.00055;
ive 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                             COMPUTER READBLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC Compatible
COMPUTER: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/302,279
FILING DATE: 22-No. US20030171566A1-2002
CLASSIFICATION: -Unknown>
PRIOR APPLICATION: -Unknown>
PRIOR APPLICATION: -Unknown>
PRIOR APPLICATION NUMBER: US 08/857,636
FILING DATE: 16-MAY-1996
APPLICATION NUMBER: WB 60/017,906
FILING DATE: 17-MAY-1996
APPLICATION NUMBER: AU PO0011
FILING DATE: 17-MAY-1996
APPLICATION NUMBER: AU PO0363
FILING DATE: 07-JUN-1996
APPLICATION NUMBER: US 60/019,765
FILING DATE: US 07-JUN-1996
ATTORNEY/AGENT INPORMATION:
                               ADDRESSEE: Townsend and Townsend and Crew LLP STREET: Two Embarcadero Center, Eighth Floor TTY: San Francisco STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 10. Application US/08954701A
| Publication No. US20030032085A1
| GENERAL INFORMATION:
| APPLICANT: SCOTT, MATHEW P
| APPLICANT: GOORICH, LISA V
| APPLICANT: GOORICH, LISA V
| TITLE OF INVENTION: Patched Genes and their Use NUMBER OF SEQUENCES: 19
| CORRESPONDENCES: 19
| CORRESPONDENCE ADDRESS: 19
| COR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Hyman, Laurence J.
REGISTRATION NUMBER: 35, 551
REFERENCE/DOCKET NUMBER: 015280-278200US
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: (415) 576-0200
TELEFAX: (415) 576-0300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INFORMATION FOR SEQ ID NO: 60:
SEQUENCE CHARACTERISTICS:
LENGTH: 1296 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: amino acid
STRANDEDNESS: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 1.2%; Scc
Best Local Similarity 100.0%; Pi
Matches 15; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      344 FNAATTOVLPFLALG 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE: protein FEATURE:
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY: linear
                                                                                                                                                                                   COUNTRY: USA
ZIP: 94111-3834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-954-701A-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 5
```

ò g

ö

Gaps

```
451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: 617-832-7000
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           617-832-7000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                        USA
                                                                                                                                                                                                                                                                                                                                                                       STREET: One I
                                                                                                                                                                                                                                                                                                                                                                                                               STATE: MA
COUNTRY: US
ZIP: 02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-954-701A-19
                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: SCOTT, MATHEW P
GOODRICH, LISA V
JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
SITREET: Four Embarcadero Center, Suite 3400
                                                                                                                                                                                                              Query Match
1.2%; Score 15; DB 10; Length 1434;
Best Local Similarity 100.0%; Pred. No. 0.00061;
Matches 15; Conservative 0; Mismatches 0; Indels C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 1.2%; Score 15; DB 14; Length 1434; Best Local Similarity 100.0%; Pred. No. 0.00061; Matches 15; Conservative 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READBELE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IEM PC compatible

COMPUTER: IEM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/10/421,446

FILING DATE: 22-Apr-2003

CLASSIFICATION NUMBER: US/09/724,631

APPLICATION NUMBER: US/09/724,631

FILING DATE: 28-No. US20030186109A1-2000

APPLICATION NUMBER: US/08/656,055

FILING DATE: 1996-05-31

APPLICATION NUMBER: US/08/656,055

FILING DATE: 1996-05-31

APPLICATION NUMBER: 08/540,406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: ROWALANG, BEFTERAM I
REGISTRATION NUMBER: 20015
REFERENCE/DOCKET NUMBER: a60190-1
TELECOMUNICATION INFORMATION:
TELEPHONE: 415-781-1989
TELEFAX: 415-398-3249
                                                                                ; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 10:
US-09-754-032-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 10:
US-10-421-446-10
                                      LENGTH: 1434 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-421-446-10
; Sequence 10, Application US/10421446
; Publication No. US20030186309A1
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 1434 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS: single
INFORMATION FOR SEQ ID NO: 10:
                      SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                      451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                 481 FNAATTOVLPFLALG 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION FOR SEQ ID NO: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ropology: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY: US
                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                      ઠે
```

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Germill, Robert M.
APPLICANT: Drabkin, Harry A.
TITLE OF INVENTION: TRC8, A GENE RELATED TO THE HEDGEHOG RECEPTOR, TITLE OF INVENTION: TRC8, A GENE RELATED TO THE HEDGEHOG RECEPTOR, TITLE OF INVENTION: PATCHED
FILE REFERENCE: 93445-00004
CURRENT PELLING NOWHER: US/09/898,533
CURRENT FILING DATE: 2001-07-02
PRIOR APPLICATION NUMBER: US/09/268,140
NUMBER OF SEQ ID NOS: 42.0
SUFFINE OF SEQ ID NOS: 42.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 8; Length 1447; 0.00061;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                APPLICANT: SCOTT, MATHEW P
APPLICANT: GOODRICH, LISA V
APPLICANT: JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS: ADDRESSE: ADDRESSE: ADDRESSE: ADDRESSE: One Post Office Square
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 1.2%; Score 15; DB Best Local Similarity 100.0%; Pred. No. 0.0 Matches 15; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII(text)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/954,701A
FILING DATE: 20-OCT-1997
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Vincent, Matthew P.
REGISTRATION NUMBER: 36709
REPERENCE/DOCKET NUMBER: SUV-003.08
TELECOMMUNICATION:
TELEPHONE: 617-832-1000
                                                                                                          US-08-954-701A-19
. Sequence 19, Application US/08954701A
. Publication No. US20030032085A1
. GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-898-533-5; Application US/09898533; Patent No. US20020106656A1; GRNERAL INFORMATION:
481 FNAATTOVLPFLALG 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      495 FNAATTOVLPFLALG 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1447 amino acids
```

```
451 FNAATTOVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         495 FNAATTOVLPFLALG 509
                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
                                                                                                                                                                                                                                 COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-421-446-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                 ö
                                                                                                                                                   Gaps
                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE: Flehr, Hohbach, Test, Albritton & Herbert STREET: Four Embarcadero Center, Suite 3400 CITY: San Francisco CITY: San Francisco COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.2%; Score 15; DB 10; Length 1447;
100.0%; Pred. No. 0.00061;
ive 0; Mismatches 0; Indels (
                                                                                                     Length 1447;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
COMPATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/754,032
FILING DATE: 03-Jan-2001
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: US/08/540,406
FILING DATE: 06-OCT-1995
                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: SCOTT, MATHEW P
GOODRICH, LISA V
JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                                                                                   Query Match
1.2%; Score 15; DB 9; Le
Best Local Similarity 100.0%; Pred. No. 0.00061;
Matches 15; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
NAME: Rowland, Bertram I
REGISTRATION NUMBER: 200190-1
REFERENCE/DOCKET NUMBER: a60190-1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-781-1989
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 19:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-421-446-19; Sequence 19, Application US/10421446; Publication No. US20030186309A1
                                                                                                                                                                                                                                                                                                                 US-09-754-032-19; Sequence 19, Application US/09754032; Publication No. US20030148388A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 1447 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRANDEDNESS: single
                                                                                                                                                                                          451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                 495 FNAATTOVLPFLALG 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FNAATTOVLPFLALG 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 94111
COMPUTER READABLE FORM:
LENGTH: 1447
TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity
Matches 15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-754-032-19
                                                          US-09-898-533-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          рþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                               g
                                                                                                                                                                                          ઠે
```

```
US-10-369-493-5410

j. Sequence 5410, Application US/10369493

j. Sequence 5410, Application US/2030233675A1

j. GENERAL INFORMATION:

j. APPLICANT: Cac, Yongwei

j. APPLICANT: Hinkle, Gregory J.

j. APPLICANT: Gldman, Barry S.

j. APPLICANT: Gldman, Barry S.

j. APPLICANT: Gldman, Barry S.

j. TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES

j. TITLE OF INVENTION: DLANTS WITH IMPROVED PROPERTIES

j. TITLE OF INVENTION UNMER: US/10/369,493

CURRENT FILING DATE: 2003-02-28

j. PRIOR APPLICATION UNMERR: US 60/360,039

j. PRIOR FILING DATE: 2002-02-21

j. NUMBER OF SEQ ID NOS: 47374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
GENERAL INFORMATION:
APPLICANT: SCOTT, MATHEW P
GOODRICH, LISA V
JOHNSON, RONALD L
TITLE OF INVENTION: Patched Genes and their Use
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
ADDRESSEE: Flehr, Hobbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 1447;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/421,446
FILING DATE: 22-Apr-2003
CLASSIFICATION: cUnknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/09/724,631
FILING DATE: 28-No. US20030186309A1-2000
APPLICATION NUMBER: US/08/656,055
FILING DATE: 1996-05-31
APPLICATION NUMBER: 08/540,406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
1.2%; Score 15; DB 14; I
Best Local Similarity 100.0%; Pred. No. 0.00061;
Matches 15; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: a60190-1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-784-1989
TELEFAX: 415-784-3249
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 19:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REGISTRATION NUMBER: 20015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
NAME: Rowland, Bertram I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 1447 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                            MEDIUM TYPE: Floppy disk
```

```
Gaps
          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 2. Application US/10663208A

Sequence 2. Application US/10663208A

Publication No. US20040132058A1

GENERAL INFORMATION:

APPLICANT: Altmann, Scott W

APPLICANT: Altmann, Scott W

APPLICANT: Margolo, Micke

APPLICANT: Margolo, Mick

ITLE OF INVENTION: NPCLL1 (NPC3) AND METHODS OF USE THEREOF

FILE REFERENCE JUDICALCA US

CURRENT APPLICATION NUMBER: US/10/663,208A

CURRENT FILING DATE: 2002-09-16

PRIOR PILING DATE: 2002-07-19

PRIOR FILING DATE: 2003-09-16

PRIOR FILING DATE: 2003-09-17

PRIOR FILING DATE: 2003-07-17

PRIOR PILING DATE: 2003-08-22

NUMBER OF SEQ ID NOS: 50

SOFTWARE: PatentIn version 3.1
          ö
                                                                                                                                                                                                                                                                                                            APPLICANT: Wang, Luquan
APPLICANT: Wang, Luquan
APPLICANT: Murgolo, Nichael
APPLICANT: Murgolo, Nichael
APPLICANT: Murgolo, Nichael
APPLICANT: Murgolo, Nichael
FILE REFERENCE: JB01603-K-US
CURRENT APPLICATION NUMBER: US/10/621,758A
CURRENT FILING DATE: 2003-07-17
PRIOR APPLICATION NUMBER: 60/397,442
NUMBER OF SEQ ID NOS: 50
SOFTWARE: Patentin version 3.1
SEQ ID NO 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0.8%; Score 10; DB 15; Length 1331; 100.0%; Pred. No. 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0.8%; Score 10; DB 16; Length 1331;
100.0%; Pred. No. 20;
ive 0; Mismatches 0; Indels 0
          Indels
          ö
       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Preu. ...
                                                                                                                                                                                                                    ; Sequence 2, Application US/10621758A; Publication No. US20040093629A1; GENERAL INFORMATION: APPLICANT: Altmann, Scott W
     ;
       10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity 100.
Matches 10; Conservative
                                                       1106 LLPVLLSILG 1115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1096 TLLGLLHGLV 1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1096 TLLGLLHGLV 1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1248 TLLGLLHGLV 1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1248 TLLGLLHGLV 1257
                                                                                                 903 LiPVLLSILG 912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT
ORGANISM: Rattus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Rattus sp
                                                                                                                                                                                              US-10-621-758A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-621-758A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-663-208A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
       Matches
                                                       à
                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 17, Application US/10239316
Publication No. US20030125253A1
Publication No. US20030125253A1
APPLICANT: TAMIYAMA, Yoshio
APPLICANT: KITA, Shunbun
APPLICANT: ATOMIN Tomoko Komiyama
APPLICANT: ATOMIN TOMOKO Komiyama
TITLE OF INVENTION: No. US20030125253A1e1 Protein, Process for Producing The Same And
FILE REPERENCE: 2703US0P
CURRENT APPLICATION NUMBER: US/10/239,316
CURRENT APPLICATION NUMBER: PCT/JP01/02279
PRIOR FILING DATE: 2001-03-22
PRIOR FILING DATE: 2001-03-22
PRIOR FILING DATE: 2000-03-24
NUMBER OF SEQ ID NOS: 59
                                                                                                                                                                                                                                                                                                                                                                                               Sequence 5464, Application US/10369493
Publication No. US20030233675A1
GENERAL INPORMATION:
GENERAL INPORMATION:
APPLICANT: Cao, Yongwei
APPLICANT: Glater, Steven C.
APPLICANT: Glater, Steven C.
APPLICANT: Glater, Steven C.
APPLICANT: Glater, Steven C.
APPLICANT: Glater, Steven C.
APPLICANT: Glater, Steven C.
APPLICANT: Glater, Steven C.
APPLICANT: Glater, Steven C.
APPLICANT: Gloudman, Barry S.
APPLICANT: Glater, Steven C.
APPLICANT: Gloudman, Barry S.
FILE REFERENCE: 38-10(52052)
CURRENT APPLICATION NUMBER: US/10/369,493
CURRENT FILING DATE: 2003-02-28
PRIOR PILING DATE: 2003-02-28
NUMBER: Cor SEQ ID NOS: 47374
SEQ ID NO 5464
LEMOTH: 1405
                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 0.9%; Score 11; DB 15; Length 1405; Best Local Similarity 100.0%; Pred. No. 2.6; Matches 11; Conservative 0; Mismatches 0; Indels C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 14; Length 1087;
17;
                                                                                                                             DB 15; Length 714;
                                                                                                                                                                                              0; Indels
                                                                                                                                                                                              Mismatches
                                                                                                                                         Query Match 0.9%; Score 11;
Best Local Similarity 100.0%; Pred. No.
Matches 11; Conservative 0; Mismatch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0.8%; Score 10;
100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; TYPE: PRT
; ORGANISM: Caenorhabditis elegans
US-10-369-493-5464
                                               ; TYPE: PRT
; ORGANISM: Caenorhabditis elegans
US-10-369-493-5410
                                                                                                                                                                                                                                           1026 VGIGVEFTVHV 1036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1026 VGIGVEFTVHV 1036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1242 VGIGVEFTVHV 1252
                                                                                                                                                                                                                                                                      660 VGIGVEFTVHV 670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; TYPE: PRT
; ORGANISM: Human
US-10-239-316-17
                                                                                                                                                                                                                                                                                                                                                            RESULT 13
US-10-369-493-5464
; SEQ ID NO 5410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-239-316-17
                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
```

```
Sequence 4, Application US/10663208A, Publication No. US20040132058A1, GENERAL INFORMATION: APPLICANT: Altmann, Scott WAPLICANT: Wang, Luquan APPLICANT: Graziano, Michael
Sequence 9, Application US/10239316; Publication No. US20030125253A1; GENERAL INFORMATION: APPLICANT: TANIYAMA, Yoshio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1247 TLLGLLHGLV 1256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1096 TLLGLLHGLV 1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1247 TLLGLLHGLV 1256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1096 TLLGLLHGLV 1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
ORGANISM: Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-621-758A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-621-758A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-663-208A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-239-316-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           da
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-736-769-2
| Sequence 2. Application US/10736769
| Sequence 2. Application US/10736769
| Publication No. US20040161838A1
| GENERAL INFORMATION:
| APPLICANT: Altmann, Scott W
| APPLICANT: Graziano, Michael
| APPLICANT: Wind Continuous Michael
| APPLICANT: Murgolo, Nick
| TITLE OF INVENTION: NOTLL! (NPC3) AND METHODS OF USE THEREOF
| FILE REFERENCE: JB01603-K3-US
| CURRENT FILING DATE: 2003-12-16
| PRIOR FILING DATE: 2003-12-16
| PRIOR FILING DATE: 2003-07-19
| PRIOR FILING DATE: 2003-07-19
| PRIOR FILING DATE: 2003-07-19
| PRIOR FILING DATE: 2003-07-19
| PRIOR FILING DATE: 2003-07-19
| PRIOR FILING DATE: 2003-07-16
| PRIOR FILING DATE: 2003-07-16
| PRIOR FILING DATE: 2003-09-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ..
0
                                                                                                             JUNEARL ALTERATION.

JAPPLICANT: Mang, Luquan

JAPPLICANT: Wang, Luquan

JAPPLICANT: Wang, Luquan

JAPPLICANT: Wang, Luquan

JAPPLICANT: Wargolo, Michael

APPLICANT: Wurgolo, Nick

TITLE OF INVENTION: NPCILI (NPC3) AND METHODS OF USE THEREOF

TITLE OF INVENTION: NPCILI (NPC3) AND METHODS OF USE THEREOF

CURRENT FILING DATE: 2003-08-22

FRIOR PEPLICATION NUMBER: 06/397,442

FRIOR PEPLICATION NUMBER: 10/621,758

FRIOR PEPLICATION NUMBER: 10/621,758

FRIOR PEPLICATION NUMBER: 10/621,758

FRIOR PEPLICATION NUMBER: 10/621,758

WUMBER OF SEQ ID NOS: 50

SOFTWARE: Patentin Version 3.1

SEQ ID NO 2

LENGTH: 1331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 0.8%; Score 10; DB 16; Length 1331; Best Local Similarity 100.0%; Pred. No. 20; Matches 10; Conservative 0; Mismatches 0; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 0.8%; Score 10; DB 16; Length 1331; Best Local Similarity 100.0%; Pred. No. 20; Matches 10; Conservative 0; Mismatches 0; Indels
                                Sequence 2, Application US/10646301A Publication No. US20040137467A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1248 TLLGLLHGLV 1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1096 TLLGLIHGLV 1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1248 TLLGLLHGLV 1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; ORGANISM: Rattus sp.
US-10-736-769-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; ORGANISM: Rattus sp. US-10-646-301A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

```
APPLICANT: KITA, Shunbun
APPLICANT: SATOMI, Tomoko Komiyama
APPLICANT: SATOMI, Tomoko Komiyama
TILE OF INVENTION: No. US20030125253A1e1 Protein, Process for Producing The Same An-
FILE REFERENCE: 2703USOP
CURRENT APPLICATION NUMBER: US/10/239,316
CURRENT FILING DATE: 2002-09-19
PRIOR APPLICATION NUMBER: PCT/JP01/02279
PRIOR APPLICATION NUMBER: JP2000-088595
PRIOR FILING DATE: 2001-03-22
PRIOR FILING DATE: 2000-03-24
NUMBER OF SEQ ID NOS: 59
SEQ ID NO 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 4, Application US/10621758A
; Sequence 4, Application US/10621758A
; Publication No. US20040093629A1
; GENERAL INFORMATION:
    APPLICANT: Altmann, Scott W
; APPLICANT: Altmann, Michael
; APPLICANT: Murgolo, Nick
; TITLE OF INVENTION: NPCIL1 (NPC3) AND METHODS OF USE THEREOF
; TITLE OF INVENTION: NUMBER: 105/10/621,758A
; CURRENT FILING DATE: 2003-07-17
; PRIOR APPLICATION NUMBER: 60/397,442
; PRIOR PILING DATE: 2002-07-19
; NUMBER OF SEQ ID NOS: 50
; SOFTWARE FILING DATE: 2002-07-19
; NUMBER OF SEQ ID NOS: 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0.8%; Score 10; DB 15; Length 1332;
100.0%; Pred. No. 20;
iive 0; Mismatches 0; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0.8%; Score 10; DB 14; Length 1332;
100.0%; Pred. No. 20;
ive 0; Mismatches 0; Indels
```

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 12, Application US/10621758A

Publication No. US20040093629A1

Publication No. US20040093629A1

GENERAL INFORMATION:
APPLICANT: Altaman, Scott W

APPLICANT: Altaman, Scott W

APPLICANT: Graziano, Michael

APPLICANT: Graziano, Michael

APPLICANT: MIRROROW NUMBER: US/10/621,758A

TITLE OF INVENTION: NUMBER: US/10/621,758A

CURRENT FILING DATE: 2003-07-17

PRIOR APPLICATION NUMBER: 60/397,442

PRIOR FILING DATE: 2002-07-19

NUMBER OF SEQ ID NOS: 50

SOFTWARE PATENTIN VERSION 3.1

SEQ ID NO. 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0.8%; Score 10; DB 16; Length 1332;
100.0%; Pred. No. 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0.8%; Score 10; DB 15; Length 1333;
100.0%; Pred. No. 20;
.ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 12, Application US/10663208A
Publication No. US20040132058A1
GENERAL INFORMATION:
APPLICANT: Atmann, Scott W
APPLICANT: Wang, Luquan
APPLICANT: Wang, Luquan
APPLICANT: Wargion, Michael
APPLICANT: Wargion, Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nichael
APPLICANT: John Nich
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 0.8%; Score 10; DB Best Local Similarity 100.0%; Pred. No. 20; Matches 10; Conservative 0; Mismatches
                                                                       PRIOR APPLICATION NUMBER: 60/391, 442
PRIOR FILING DATE: 2002-07-19
PRIOR PELING DATE: 2003-07-17
PRIOR PILING DATE: 2003-07-17
PRIOR PILING DATE: 2003-07-17
PRIOR PILING DATE: 2003-08-18
PRIOR APPLICATION NUMBER: 10/663,208
PRIOR FILING DATE: 2003-09-16
NUMBER OF SEQ ID NOS: 51
SOFTWARE: Patentin version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: 60/397,442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ||||||||||
1247 TLLGLLHGLV 1256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1096 TLLGLLHGLV 1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1096 TLLGLLHGLV 1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1248 TLLGLLHGLV 1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Homo sapiens
US-10-736-769-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; TYPE: PRT
; ORGANISM: Mus sp.
US-10-621-758A-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-663-208A-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-621-758A-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 1332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
APPLICANT: Murgolo, Nick
TITLE OF INVENTION: NPC11.1 (NPC3) AND METHODS OF USE THEREOF
FILE REPERENCE: JB01603K2 US
CURRENT APPLICATION UNDBER: US/10/663,208A
CURRENT FILING DATE: 2003-09-16
PRIOR PEDLICATION NUMBER: 0/397,442
PRIOR FILING DATE: 2002-07-19
PRIOR FILING DATE: 2003-07-17
PRIOR PEDLICATION NUMBER: 10/621,758
PRIOR FILING DATE: 2003-07-17
PRIOR FILING DATE: 2003-07-17
PRIOR FILING DATE: 2003-08-22
NUMBER OF SEQ ID NOS: 50
SOFTWARE: Patentin version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Altmann, Scott W
APPLICANT: Mang, Luquan
APPLICANT: Wang, Luquan
APPLICANT: Wargalon, Michael
APPLICANT: Murgolo, Nick
TITLE OF INVENTION: NPCILI (NPC3) AND METHODS OF USE THEREOF
FILE REFERENCE: JB01603-K1-US
CURRENT FILING DATE: 2003-08-22
PRIOR APPLICATION NUMBER: 60/397,442
PRIOR PELICATION NUMBER: 10/621,758
PRIOR FILING DATE: 2003-07-19
PRIOR FILING DATE: 2003-07-17
NUMBER OF SEQ ID NOS: 50
SOFTWARE: PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ouery Match 0.8%; Score 10; DB 16; Length 1332; Best Local Similarity 100.0%; Pred. No. 20; Matches 10; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 0.8%; Score 10; DB 16; Length 1332; Best Local Similarity 100.0%; Pred. No. 20; Matches 10; Conservative 0; Mismatches 0; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Wang, Luquan
APPLICANT: Graziano, Michael
APPLICANT: Graziano, Nick
TITLE OF INVENTION: NPCLLI (NPC3) AND METHODS OF USE THEREOF
FILE REFERENCE: JB01603-K3-US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 4, Application US/10646301A Publication No. US20040137467A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 4, Application US/10736769 Publication No. US20040161838A1 GENERAL INFORMATION: APPLICANT: Alterann, Scott W
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1247 TLLGLLHGLV 1256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1247 TLLGLLHGLV 1256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1096 TLLGLLHGLV 1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1096 TLLGLLHGLV 1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
ORGANISM: Homo sapiens
US-10-663-208A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 1332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 1332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-646-301A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-646-301A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 23
US-10-736-769-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 4
```

ઠે 셤 ö

ઠે g

Gaps

. 0

```
APPLICANT: Wang, Luquan
APPLICANT: Wang, Luquan
APPLICANT: Graziano, Michael
APPLICANT: Murgolo, Nick
TITLE OF INVENTION: NPCLLI (NPC3) AND METHODS OF USE THEREOF
FILE REPERBNES: J801603X2 US
CURRENT APPLICATION NUMBER: US/10/663,208A
CURRENT FILING DATE: 2003-09-16
FRIOR PILING DATE: 2002-07-19
FRIOR APPLICATION NUMBER: 10/621,758
FRIOR PILING DATE: 2003-07-17
FRIOR APPLICATION NUMBER: 10/646,301
FRIOR PILING DATE: 2003-07-17
FRIOR APPLICATION NUMBER: 10/646,301
FRIOR PILING DATE: 2003-08-22
NUMBER OF SEQ ID NOS: 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0.8%; Score 10; DB 15; Length 1359;
100.0%; Pred. No. 20;
iive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                           Length 1333;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Atlenation, 2000 A
APPLICANT: Wang, Luquan
APPLICANT: Graziano, Michael
APPLICANT: Graziano, Michael
APPLICANT: Graziano, Michael
APPLICANT: Murgolo, Nick
TITLE OF INVENTION: NPC111 (NPC3) AND METHODS OF USE THEREOF
FILE REFERENCE: J801603-K-US
CURRENT APPLICATION NUMBER: 08/10/621,758A
PRIOR APPLICATION NUMBER: 60/397,442
PRIOR FILING DATE: 2003-07-19
RINGER OF SEQ ID NOS: 50
SOFTWARE: PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                               0; Indels
                                                                                                                                                                                                                                                                                                             DB 16;
                                                                                                                                                                                                                                                                                              0.8%; Scor.
100.0%; Pred. No. 20.
... 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; Sequence 44, Application US/10663208A; Publication No. US20040132058A1
; GENERL INFORMATION: APPLICANT: Altmann, Scott W
PRIOR APPLICATION NUMBER: 10/646,301
PRIOR FILING DATE: 2003-08-22
PRIOR PAPPLICATION NUMBER: 10/663,208
PRIOR FILING DATE: 2003-09-16
NUMBER OF SEQ ID NOS: 51
SOFTWARE: Patentin version 3.1
SEQ ID NO 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-621-758A-44
; Sequence 44, Application US/10621758A
; Publication No. US20040093629A1
; PUBLICALION SCOTE W
                                                                                                                                                                                                                                                                                                           Query Match 0.8
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1248 TLLGLLHGLV 1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1096 TLLGLLHGLV 1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ||||||||||
1274 TLLGLLHGLV 1283
                                                                                                                                                                                                                                                                                                                                                                                                               1096 TLLGLLHGLV 1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Homo sapiens
US-10-621-758A-44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                          TYPE: PRT
ORGANISM: Mus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 29
US-10-663-208A-44
                                                                                                                                                                                                                                                              US-10-736-769-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .
0
                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WS-10-736-769-12

| Sequence 12, Application US/10736769 |
| Sequence 12, Application US/10736769 |
| Sequence 12, Application No. US2040161838A1 |
| GENERAL INFORMATION |
| APPLICANT: Altmann, Scott W |
| APPLICANT: Wangolo, Michael |
| APPLICANT: Wargolo, Michael |
| APPLICANT: Wargolo, Nick |
| TITLE OF INVENTION: NPC11.1 (NPC3) AND METHODS OF USE THEREOF |
| FILE REFERENCE: J801603-K3-US |
| CURRENT FILING DATE: 2003-12-16 |
| PRIOR APPLICATION NUMBER: 60/397,442 |
| PRIOR APPLICATION NUMBER: 10622-07-19 |
| PRIOR FILING DATE: 2002-07-19 |
| PRIOR FILING DATE: 2003-07-17 |
| PRIOR FILING DATE: 2003-07-17 |
| PRIOR FILING DATE: 2003-07-17 |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Mang, Luquan
APPLICANT: Marg, Luquan
APPLICANT: Marg, Luquan
APPLICANT: Margolo, Nichael
APPLICANT: Murgolo, Nichael
TITLE OF INVENTION: NPC1LI (NPC3) AND METHODS OF USE THEREOF
FILE REPERENCE: J801603-KI-US
CURRENT APPLICATION NUMBER: US/10/646,301A
CURRENT APPLICATION NUMBER: 60/397,442
PRIOR FILING DATE: 2002-07-19
PRIOR FILING DATE: 2003-07-17
NUMBER OF SEQ ID NOS: 50
SOFTWARE: Patentin version 3.1
SOFTWARE: Patentin version 3.1
                                                                                                                                                                                                                                                                                                                                  Query Match 0.8%; Score 10; DB 16; Length 1333; Best Local Similarity 100.0%; Pred. No. 20; Matches 10; Conservative 0; Mismatches 0; Indels C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 10; DB 16; Length 1333;
Pred. No. 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 0.8%; Score 10; DB Best Local Similarity 100.0%; Pred. No. 20; Matches 10; Conservative 0; Mismatches
  PRIOR FILING DATE: 2002-07-19
PRIOR APPLICATION NUMBER: 10/621,758
PRIOR PILING DATE: 2003-07-17
PRIOR APPLICATION NUMBER: 10/646,301
PRIOR FILING DATE: 2003-08-22
NUMBER OF SEQ ID NOS: 50
SOFTWARKE: Patentin version 3.1
SEQ ID NO 12
LENGTH: 1333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-646-301A-12

Sequence 12, Application US/10646301A

Publication No. US20040137467A1

GENERAL INFORMATION:
APPLICANT: Altmann, Scott W
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1096 TLLGLLHGLY 1105
                                                                                                                                                                                                                                                                                                                                                                                                                                           1096 TLLGLLHGLV 1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1248 TLLGLLHGLV 1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1248 riidiindiv 1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; TYPE: PRT
; ORGANISM: Mus sp.
US-10-646-301A-12
                                                                                                                                                                                                                                                                 ORGANISM: Mus sp.
                                                                                                                                                                                                                                                                                        US-10-663-208A-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
```

ö

Gaps

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ô
                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 30
US-10-646-301A-44

Sequence 44, Application US/10646301A

Sequence 47, Application US/10646301A

Publication No. US20040137467A1

GENERAL INFORMATION:

APPLICANT: Alman, Scott W

APPLICANT: Graziano, Michael

APPLICANT: Graziano, Michael

APPLICANT: Mang, Luquan

APPLICANT: MISOLO, NICA

TITLE OF INVENTION: NPC1LI, US

CURRENT PELICAN DATE: 2003-622

FILE REFERENCE: JB01603-K1-US

CURRENT PELICATION NUMBER: US/621,758

PRIOR APPLICATION NUMBER: 10/621,758

PRIOR PILING DATE: 2003-07-19

PRIOR FILING DATE: 2003-07-17

NUMBER OF SEQ ID NOS: SO

SOFTWARE: PATENTING DATE: 2003-07-17

ILENGTH: 1359

TYPE: PRT

CREALING DATE: US SOFTWARE: DATE: US/621,758

PRIOR FILING DATE: 2003-07-17

NUMBER OF SEQ ID NOS: SO

SOFTWARE: PATENTING DATE: US/621,758

TYPE: PRT

CREALING DATE: US/621,758

PRIOR FILING DATE: US/621,758

PRIOR FILING DATE: US/621,758

PRIOR PILING DATE: US/621,758
                                                                                                                                                                                                                                                  Query Match 0.8%; Score 10; DB 16; Length 1359; Best Local Similarity 100.0%; Pred. No. 20; Matches 10; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match

0.8%; Score 10; DB 16; Length 1359;
Best Local Similarity 100.0%; Pred. No. 20;
Matches 10; Conservative 0; Mismatches 0; Indels (
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 44
; LENCYTH: 1359
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-663-208A-44
                                                                                                                                                                                                                                                                                                                                                                                             1096 TLLGLLHGLV 1105
                                                                                                                                                                                                                                                                                                                                                                                                                                         1274 TLLGLLHGLV 1283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1096 TLIGLLHGLY 1105
                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
```

Search completed: June 16, 2005, 08:12:47 Job time : 181 secs

1274 TLLGLLHGLV 1283

THIS PAGE BLANK (USPTO)

Aae19830 Human pat Aag1971 Human pat Add46678 Human pat Add46678 Human pat Add62731 Human pat Add62731 Human pat Add22811 Human pat Add22813 Human pat Add22811 Bacterial Add22811 Bacterial Add22811 Bacterial Add22811 Bacterial Add22811 Novel hum Abg25312 Novel hum Agg6563 SSD-conta Add5737 Human pro Adj27295 Rat NPC1L Amm79168 Human NPC Adj2737 Human NPC Adj2737 Human NPC Adj2737 Human NPC Adj2737 Human NPC Adj2737 Human NPC Adj2737 Human NPC Adj2737 Human NPC Adj2737 Human NPC Adj2737 Human NPC Adj2737 Human NPC Adj2737 Human NPC Adj2728 Patched p Add6272 Patched g Add6272 Novel hum Add6272 Novel hum Add6272 Novel hum Add6273 Novel hum Add6273 Novel human NPC Adj2737 Anopheles Aaw52198 Anopheles Aaw52198 Anopheles Aaw52198 Anopheles Aaw5219 Arabidops Aag3733 Arabidops Aag3733 Arabidops Aay72972 Drosophil	Aab67157 Fruit fly Aag79574 Drosophil Abu62121 Fruit fly Ad64211 Fruit fly Ad642121 Fruit fly Ad642121 Fruit fly Ad642121 Fruit fly Ad64213 Fly patch Abb59022 Drosophil Abb10929 TRCB rela Aar86304 Drosophil Aac65389 Human pat Aab51232 A consens Abb79150 Patched p Ada25289 Hedgehog Adb71232 A consens Abb79150 Patched p Ada25289 Hedgehog Add55109 Hedgehog Abw00078 Drosophil Abw00685 Drosophil Adh61129 Drosophil Adh61129 Drosophil Adh61129 Drosophil Adh62149 Broterify Abu62149 Buckeye p Ad64209 Peacock b Ad64209 Peacock b Ad648974 Butterfly
5 AAR19830 5 ABA[19831 5 AAA[10931 7 ABD66275 7 ADB62275 7 ADB62275 7 ADB62231 8 AAB43088 4 AAG55312 4 AAG55640 8 AAD27287 6 AAB727297 8 AAAF31114 7 AAB73118 8 AAD27297 8 AAAF31114 7 ABB6216 7 AAB6216 7 AAB62272 7 AAB62198 8 AAG79973 8 AAG39734 8 AAG39734 8 AAG39734 8 AAG39733 8 AAG39733 8 AAG39733 8 AAG39733 8 AAG39733	
100 100 100 100 100 100 100 100 100 100	1285 1285 1286 1286 1286 1286 1286 1286 1286 1286
	୭ ୭ ୭ ୭ ୭ ୭ ୭ ୭ ୭ ୭ ୭ ୭ ୭ ୭ ୭ ୭ ୭ ୭ ୭
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.000000000000000000000000000000000000
d by chance to have distribution.	Aay43261 Human pat Aae19829 Human pat Abg74104 Human pat Aay28444 Human pat Aay28444 Human pat Aay92225 Human pat Aav92226 Human pat Aav8286 Human pat Aav8287 Human pat Aav8287 Human pat Aav8287 Human pat Aav8287 Human pol Ad46676 Rat Prote Aaw45219 Mouse pat Aav54380 Mouse pat Aav54380 Mouse pat Aav5715 Mouse pat Abu62271 Mouse pat Abu62271 Mouse pat Abd62421 Mouse pat Ad694215 Murine pt Ad694215 Mouse pat Ad694215 Murine pt Ad62722 Mouse pat Ad62721 Murine pt Ad75375 Human pat Aaw5200 Human pat Aaw5200 Human pat
GenCore version 5. Copyright (c) 1993 - 2005 Co rotein search, using sw model June 16, 2005, 07:44:11; Search 1203 MTRSPPLRELPPSYTPPART OLIGO Gapop 60.0, Gapext 60.0 2105692 seqs, 386760381 residue. 1 markspplant 100 summaries A Geneseq 16Dec04:* 1: geneseqp20005:* 3: geneseqp20018:* 5: geneseqp20018:* 6: geneseqp20018:* 7: geneseqp20018:* 8: geneseqp20018:* 6: geneseqp20038:* 7: geneseqp20038:* 8: geneseqp20038:* 6: geneseqp20038:* 7: geneseqp20038:* 8: geneseqp20038:* 7: geneseqp20038:* 8: geneseqp20038:* 6: geneseqp20038:* 7: geneseqp20038:* 8: geneseqp20038:* 8: geneseqp20038:* 9: denseqp20048:* 1: geneseqp20048:* 1: geneseqp20048:* 2: geneseqp20048:* 4: geneseqp20048:* 6: geneseqp20048:* 7: geneseqp20048:* 8: geneseqp20048:* 8: geneseqp20048:* 9: denseqp20048:* 1: geneseqp20048:* 1: geneseqp20048:* 8: geneseqp20048:* 9: denseqp20048:* 1: geneseqp20048:* 1: geneseqp20048:* 1: geneseqp20048:* 2: geneseqp20048:* 3: geneseqp20048:* 6: geneseqp20048:* 7: geneseqp20048:* 8: geneseqp20048:* 9: denseqp20048:* 1: geneseqp20048:* 1: geneseqp20048:* 2: geneseqp20048:* 3: geneseqp20048:* 4: geneseqp20048:* 6: geneseqp20048:* 7: geneseqp20048:* 8: geneseqp20048:* 8: geneseqp20048:* 9: denseqp20048:* 10: geneseqp20048:* 10: g	Score Match Length DB ID 1203 100.0 1203 2 AAY43261 1203 100.0 1203 5 AAB19829 1203 100.0 1203 5 AAB19829 1203 100.0 1203 5 AAB219829 1203 100.0 1203 5 AAB219829 94 74.8 1203 2 AAY2225 94 7 41.3 529 2 AAW82586 94 7.8 1182 5 AAR19831 43 3.6 46 3 AAW82586 15 1.2 1296 2 AAW82199 15 1.2 1434 2 AAW52199 15 1.2 1434 2 AAW52199 15 1.2 1434 4 AAB67159 15 1.2 1434 7 AB167159 15 1.2 1434 7 AB167221 15 1.2 1434 7 AB167221 15 1.2 1434 7 AB167159 15 1.2 1434 7 AB167221 15 1.2 1434 7 AB167221 15 1.2 1434 7 AB167221 15 1.2 1434 7 AB167221 15 1.2 1447 2 AAW52200 15 1.2 1447 2 AAW52209 15 1.2 1447 2 AAW52209 15 1.2 1447 2 AAW5269 15 1.2 1447 2 AAW52200 15 1.2 1447 4 AAB67163

```
RRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLAMMTVELFGIMGFLGIKLSAIPVV 1020
                                                                                                                                                                                                                                                                                                                                                                                               GMARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPPEWLHDKYDTTGENLRIP 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FDFIVRYFFAALTVLTLIGILHGIVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG
                                                                                                                                                                                                                                               FPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK
                                                                                                                                                                                                                                                                                                                                 QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TKEHAFLSAQLRYFSLYBVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WIHYYRNWIQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGENLRIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PDFIVRYFFAALTVLTLIGLIHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG
MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                      LGLLAFGALALGLRMAI I ETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR
                                                                                                                                                                             QEGENILIPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL
                                                                                                                                                                                                                                                                                                                                                                                                                             GMARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PAQPLEFAQFPFILLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                                                      FPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK
                                                                                                                                                                                                                                                                                                             AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QAFTHCEASSQHVVTILPPQAHLVPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PAQPLEFAQPPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                  QEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1081
                                                                                      61
                                                                                                                                                                               121
                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     961
                                               61
                                                                                                                                    121
                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                             엄
                                                                                                                           ò
                                                                                                                                                                           염
                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ∂
                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   diseases, skin diseases, diseases or the parcreas, diabetes, and ulcers, lung diseases, diseases of the pancreas, diabetes, and osteoporosis. Antagonists or agonists of patched-2 may be used for treating disorders or creating a desirable physiological condition treating disorders or creating a desirable physiological condition creating a specially phe signalling, especially phe signalling, especially contraception or infertility treatment. The products can also be used for diameter diameters diameter diameters of the signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal signal sign
                                                                                                                                                                                                                                                                                                                                                                    Patched-2; ptch-2; human; signalling molecule; hedgehog cascade; stroke; cell proliferation; cell differentiation; testicular cancer; gut disease; degenerative disorder; nervous system disorder; Parkinson's disease; memory deficit; Alzheimer's disease; Lou Gehrig's disease; schizophrenia; Huntington's disease; drug addiction; bone disease; skin disease; ulcer; infertility; lung disease; pancreatic disorder; diabetes; osteoporosis; therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     wolated human patched-2 gene, used to develop products for treating, cancer and Alzheimer's disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
  Thermococ
Artificia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This sequence represents the human patched-2 (ptch-2) protein of the invention. The patched-2 polypeptides are signalling molecules, specifically for signalling and mediator molecules in the hedgehog (hh) cascade which are involved in cell proliferation and differentiation. They can be used for the treatment of disorders which are mediated at also be used for treating degenerative disorders of the nervous system, e.g. Parkinson's disease, memory deficits, Alzheimer's disease, Lou dehrig's disease, Huntington's disease, schizophrenia, stroke and drug addiction. Patched-2 agonists can be used to treat gut diseases, bone diseases, shin diseases, diseases of the testis (including infertility) ulcers, lung diseases, diseases of the pancreas, diabetes, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
  Adn46550 Abb76816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 2; Length 1203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Score 1203;
100.0%; Pred. No. 0;
ive 0; Mismatches
                                                                                         ALIGNMENTS
    ADN46550
ABB76816
                                                                                                                                                                                                    AAY43261 standard; protein; 1203 AA
                                                                                                                                                                                                                                                                                                                                 Human patched-2 protein sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14; Fig 1; 124pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New isolated human patched-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99WO-US007417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 98US-00060939
    ω 4
                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sauvage FJ, Carpenter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 100.
Matches 1203; Conservative
  1711
23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 1999-620428/53.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1203 AA;
  0.7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB; AAZ31717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO9953058-A1
                                                                                                                                                                                                                                                                                           19-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Н
                                                                                                                                                                                                                                             AAY43261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          e.g.
                                                                                                                                                                             AAY43261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ě
  99
                                                                                                                                                                                                                                             ò
```

360 420

180

300 300 480

480

420

540 540 600 600 9 099 720 720 780 780 840 840 900 1140

1140

1081

1080

m

유

ò

g

ò

```
The invention relates to an isolated sequence comprising a native human patched. 2 (Ptch-2) polypeptide. The invention also relates to signalling and mediator molecules in the hedgehog (Hh) cascade which are involved in cell proliferation and differentiation. The isolated sequence is useful for the treatment of disorders which are linked to Hedgehog, especially Desert hedgehog expression, such as testicular cancer. It may also be used as a hybridisation probe in a cDNA library to isolate Ptch-2 or its Hodgehog protein signalling. The present sequence is human patched-2 (Ptch-2) protein
                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AWILVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV 600
                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661 LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG 720
                                                                      for treating disorders caused by testicular cancer, and for screening
                                                                                                                                                                                                                                                                                                                                                                                                                MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                   MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LGLLAFGALALGLRMAI IETNLEQLWVEVGSRVSQELHYTKEKLGEBAAYTSQMLIQTAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LGLLAFGALALGLRWAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GMARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GMARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVP1PALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QAFTHCEASSQHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGGEEETRQKAACKS
                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                      Length 1203;
                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                        ..
                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                        ВВ
                                                                                                                                                                                                                                                                                                                                                      100.0%; Score 1203; 100.0%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                   0; Mismatches
                                                                    Native human patched-2 polypeptide
Hedgehog protein signaling such as
CDNA libraries.
                                                                                                                                Example 1; Fig 1; 82pp; English
Carpenter DA;
                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                           WPI; 2002-215260/27.
N-PSDB; AAD31576.
                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 1203; Conserv
                                                                                                                                                                                                                                                                                                                           Sequence 1203 AA;
Sauvage F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              名
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         р
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        유
         Human, patched-2, Ptch-2, cell proliferation, differentiation, therapy,
cytostatic, testicular cancer, hedgehog protein signalling.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /noce-
458. 477
/label= TM4
/~~*e= "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                             note= "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         note= "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Transmembrane
                                                                                                                                                                      AAE19829 standard; protein; 1203 AA.
                                                                                                                                                                                                                                                                                                                                                                    .ocation/Qualifiers
                                                                                                                                                                                                                                                             Human patched-2 (Ptch-2) protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .014. .1033
|abel= TM10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               058. .1077
label= TM11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |abel= TM12
|note= "Tran
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99US-00293505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98US-0081884P
                                                                                                                                                                                                                                                                                                                                                                                                                         394. .414
/label= TM2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      32. .553
|abel= TM6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 87. .705
|abel= TM7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TM9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .1010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      127. .449
/label= TM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            164. .984
|abel= TM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  note=
058.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                         note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (GETH ) GENENTECH INC
                                                                    ATG 1203
                                                                                              ArG 1203
                                                                                                                                                                                                                                                                                                                                       sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US6348575-B1
                                                                                                                                                                                                                                18-JUN-2002
                                                                                              1201
                                                                   1201
            1141
                                       1141
                                                                                                                                                                                                   AAE19829
                                                                                                                                                                                                                                                                                                                                                                                Domain
                                                                                                                                                                                                                                                                                                                                                                                                                            Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Domain
                                                                                                                                                                                                                                                                                                                                     Homo
                                                                                                                                         KESULT 2
AAE19829
```

```
The invention relates to a new isolated nucleic acid encoding a patched-2 biological activity, comprises DNA having at conjugation the sequence identity with a DNA molecule or its complement encoding: (a) a human patched-2 polypeptide comprising the sequence encoding: (a) a human patched-2 polypeptide comprising the sequence of BG74104; no. (b) the same mature polypeptide encoded by the cDNA (ATCC CC Deposit No. 209778 designation). Also included are a vector comprising the uncleic acid, a host cell transformed with the vector, a process for producing patched-2 polypeptide, a chimaeric molecule comprising the vertebrate patched-2 polypeptide, a chimaeric molecule comprising the vertebrate patched-2 polypeptide and a heterologous (a) sequence, an antagonist of patched-2 (that blocks, prevents, inhibite and/or neutralises the Descrit comprising of patched-2 that tsimulates or enhances the normal functioning of patched-2 that tsimulates or enhances the normal functioning of patched-2 and diagnosing to determine whether a particular disorder is modulated for antiferior or treating a disorder that is modulated by Dhh signalling e.g. tumour, basal cell carcinoma, neurodegenerative disorders, memory deficit, alzenier of disease, schizophrenia, stroke, drug addiction, gut companied of diseases, bone diseases, skin diseases, testicular diseases, ulcers, lung diseases, parched-2 may also be used to develop male contraceptives. The gene for Patched-2 is located on human chromosome 1p33-34. The present sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR 120
                                                            s acid, useful for manufacturing a medicament for diagnosing or disorder that is modulated by Desert hedgehog (Dhh) signaling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PPCVII.TPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GMARDPOGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GMARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MIRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OBGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ·
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6; Length 1203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 1203;
100.0%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              represents human patched-2 protein
                                                                                                                                                Claim 14; Fig 1, 85pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 100.
Best Local Similarity 100.
Matches 1203; Conservative
                                                                                                       e.g., testicular cancer.
                                                                   nucleic acid,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 1203 AA;
                       N-PSDB; ABX15919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FDFIVEYFFRALTVLTLLGLLHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG 1140
                                                                                                                                                                                                                                                                                                                                                                                                                               1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLAMMTVELFGIMGFLGIKLSAIPVV 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LRWGASSSLPQSFARVTTSMTVAIHPPPLPGAYIHPAPDEPPWSPAATSSGNLSSRGPGP 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human; patched-2; Dhh signalling; proliferation; differentiation; chromosome 1p33-34; male contraceptive; infertility; spermatogenesis; basal cell carcinoma; neurodegenerative disorder; memory deficit; Alzheimer, disease; Parkinson's disease; Lou Gehrig's disease; Huntington's disease; schizohrenia; stroke; drug addiction; gut disease; bone disease; skin disease; testicular disease; ulcer; lung disease; pancreatic disease; diabetes; osteoporosis; desert hedgehog.
                                                                                                                                                   840
                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                            900
                                                                                                                                                                                                                                                                                                                     960
                                                                                                                                                                                                                                                                                                                                                              960
TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEMLHDKYDTTGENLRIP
                                                                                                       TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                               TRKL, VDREGLI PPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGENLRI P
                                                                                                                                                                                                                                                                                                                     PAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                                                                                                                                                                               PAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FDFIVRYFFAALTVLTLIGLLHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG
                                                                TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                     WLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABG74104 standard; protein; 1203 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      98US-0081884P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            De Sauvage FJ, Carpenter DA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20-NOV-2001; 2001US-00990046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               patched-2 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US2002156245-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-APR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                              961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABG74104;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1201
                                                                                                                                                                                            781
                                                                                                                                                                                                                                                                                                                                                                                                     196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1201
                                                                                                         721
                                                                                                                                                     781
                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                              841
                                                                                                                                                                                                                                                                                                                       901
                                                                                                                                                                                                                                                                                                                                                              901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABG74104
```

g

ò

g

ò

셤

g δ g ò

ò d ò g

ò

g

ò

ò

ö

120 180 180 240

9

480

480

300

300

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LRWGASSSLPQSFARVITSMTVAIHPPPLPGAYIHPAPDEPPWSPAATSSGNLSSRGPGP 1200
                                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                                                                                                                                                                 096
                                                                                                                                                                                                                                                                                                                                                                                                                                                              960
                                                            009
                                                                                        600
                                                                                                                       099
                                                                                                                                                   099
                                                                                                                                                                                 720
                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPFEWLHDKYDTTGENLRIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RRCFLLAVCILLVCTFLVCALLLLLNPWTAGLIVLVLAMMTVELFGIMGFLGIKLSAIPVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RRCFLLAVCILLVCTFLVCALLILINDWTAGLIVLVLAAMTVELFGIMGFLGIKLSAIPVV
ALPGTPLOERMGECLORTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                 ALPGTPLOERMGECLORTGTSVVLTSINNMAAFLMAALVPIPALRAFSLOAAIVVGCTFV
                                                                                                                                                  QAFTHCEASSOHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS
                                                                                                                                                                                 LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG
                                                                                                                                                                                                                LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG
                                                                                                                                                                                                                                                                         TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                        ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1081 FDFIVRYFFAALTVLTLLGLLHGLVLLEVLLSILGPPPEVIQMYKESPEILSPPAPQGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1141 LRWGASSSLPQSFARVTTSMTVAIHPPPLPGAYIHPAPDEPWSPAATSSGNLSSRGPGP
                                                          AVMLVPPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                            QAFTHCEASSQHVVTILPPQAHLVPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS
                                                                                                                                                                                                                                            TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                       WLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                                                     TRKL/VDREGLIPPELFYMGLTVWVSSDPLGLAASOANFYPPPPEWLHDKYDTTGENLRIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                            PAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                                                                                                                                                                                                                                                                PAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATG 1203
                                                                                       541
                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1201
481
                            481
                                                          541
                                                                                                                                                   601
                                                                                                                                                                                                            199
                                                                                                                                                                                                                                                                                                                                                                                                                                                              901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1081
                                                                                                                     601
                                                                                                                                                                                 661
                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                                 901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1201
                                                                                    셤
                                                                                                                     ò
                                                                                                                                                셤
                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                       용
                                                                                                                                                                                                                                                                                                                                   а
                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                          δ
                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
```

Patched-2; ptc-2; human; hedgehog receptor; nootropic; neuroprotective; antiinflammatory; antiparkinsonian; cardiant; antiarthritic; screening; modulacor; antagonist; agonist; cellular proliferation; neuronal tissue; testicular tissue; osteogenic tissue; chondrogenic tissue; disease; graft; transplant; treatment; nervous system injury; chemical injury; vasal injury; infection; inflammatory; tumor-induced injury; ageing; Alzheimer's disease; chronic neurodegenerative disease; innervation; Parkinson's disease; Huntingdon's chorea; amylotrophic lateral sclerosis; spinocerebellar degeneration, multiple sclerosis; autonomic disorders; peripheral nervous system; smooth muscle; endocrine tissue; tachycardia; AAY28444 standard; protein; 1203 AA (first entry) Human ptc-2 protein. AAY28444; RESULT 4

cell differentiation; chronic pain syndrome; atrial cardiac arrhythmia; cell differentiation; chronic pain syndrome lesion-induced death; neuron regeneration; damage repair; skeletal; cartilage; osteogenesis; arthritis; bone fracture; hereditary disease; prosthetic cartilage device; spermatogenesis; fertility enhancer.

Homo sapiens

W09929854-A1

17-JUN-1999.

08-DEC-1998;

98WO-US026009

97US-0067940P

08-DEC-1997;

(ONTO-) ONTOGENY INC

DA;

WPI; 1999-561298/47. N-PSDB; AAX89478 New human patched-2 (ptc-2) genes and proteins, useful in the treatment, prevention and/or reduction of the severity of neurological conditions.

Claim 3; Page 73-77; 80pp; English.

This invention describes a novel recombinantly produced human patched-2 (ptc-2) polypeptide which has nootropic, neuroprotective, cardiant, cantifinamatory, antiparkinsonian and antiarthritic activity. The ptc-2 protein is a hedgehog receptor and is therefore capable of modulating hedgehog signalling, and so affect a number of hedgehog-mediated used to beloogical activities. The human patched-2 (ptc-2) protein can be used to screen for modulators, antagonists and agonists, which are likely to play an important role in the modulation of cellular proliferation and cantenance of, e.g. neuronal, testicular, osteogenic or chondrogenic transplanted tissue; for the treatment, prevention and/or reduction of for in vivo reformation of tissue; to improve grafting and morphology of transplanted tissue; for the treatment, prevention and/or reduction of the severity of neurological conditions deriving from: injury to the nervous system including traumatic injury, chemical injury, vasal injury and deficits (such as ischemia resulting from stroke), together with influding Alzheimer's diseases, chronic neurodegenerative diseases of the nervous system including Parkinson's disease, thronic neurodegenerations; and chronic lammunological diseases of the nervous system including Parkinson's disease, contended in the treatment of autiple sclerosis, ptc-2 therapeutics can also be used in the treatment of autiple sclerosis, ptc-2 therapeutics can also be used in the treatment of autiple sclerosis, ptc-2 therapeutics can also be used in the treatment of susue, e.g. to treat tachycardia or atrial cardiac arrhythmias.

Chacken and be used to rescue neurons from lesion-induced death as well as should ear nutritional deferentiation, in diseases such CNS treams infarction, in diseases such CNS treams and each or served mutrices as well as for treatment of chronic pain such or regeneration in diseases such CNS treams and each or served mutrices as well as for treatment of chronic pain mutrices as well as for treatment of chronic pains may b infection, metabolic disease, nutritional deficiency, toxic agents, and se on. ptc-2 therapeutics may also be used for the repair of central and peripheral nerve damage, for repair and regeneration of non-neuronal tissue, e.g. skeletal and cartilage tissue, e.g. in the treatment of osteogenesis, arthritis, bone fractures, hereditary disease, as well as spermatogenesis and as fertiliaty educates, and to induce spermatogenesis and as fertility enhancers. This sequence represents the human ptc-2 protein described in the invention

Sequence 1203 AA;

ö Length 1203; 3; Indels В Mismatches Score 900; I Pred. No. 0; · 0 74.8%; Conservative Best Local Similarity Matches 1200; Conser Query Match

ö

9 MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF

> ð 셤

```
Score 888; DE
Pred. No. 0;
0; Mismatches
                                                                                                                                                                               Ą.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ą
                                                                                                                                                                               protein; 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Page; 55pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (KARO-) KAROLINSKA INNOVATIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PHARMACIA & UPJOHN CO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99WO-SE001784.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  98SE-00003393.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      73.8%;
99.7%;
                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 73.8
Best Local Similarity 99.7
Matches 1188; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2000-303645/26.
                                                                                                                                                                                AAY92703 standard;
                                                                                             ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Zaphiropoulos PG,
Hollingsworth RE;
                                                              ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 1203 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB; AAA09084.
                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200020037-A1
                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  06-OCT-1998;
                                                                                                                                                                                                                                                10-AUG-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13-APR-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       carcinoma
                             1141
                                                              1201
                                                                                                                                                                                                              AAY92703;
                                                                                               1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (PHAA)
                                                                                                                                                             AAY92703

IID AAY9

XXX AAC AAY9

XXX AAY9

XXX Home

XXX Home

XXX Home

XXX Home

XXX Home

XXX Home

YXX                                                                                                                                               RESULT
                   셤
                                                            ò
                                                                                           셤
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
                                                                               180
                                                                                                                                               240
                                                                                                                                                                               240
                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 600
                                           120
                                                                                                              180
                                                                                                                                                                                                                                 FDFIVRYFFRAALTVLTLIGLLHGLVLLDVLLSILGPPPEVIQMYKESPEILSPPAPQGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541 AVMLVFPAIFSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGENLRIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEMLHDKYDTTGENLRIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG
                                                                                                                                                                 SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QAFTHCEASSQHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
               LGLLAFGALALGLRMAIIETNIEQLWVEVGSRVSQELHYTKEKLGEBAAYTSQMLIQTAR
                                  LGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR
                                                                                                         121 QEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIERMIEKL
                                                                                                                                                 PPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK
                                                                                                                                                                                                                 AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG
                                                                                                                                                                                                                                                                                 GMARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV
                                                                                                                                                                                                                                                                                                                                                   QLAQEALPENASQQ1HAFSSTTLDD1LHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                     SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAARFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ALPGTPLOERMGECLORIGISVVLTSINNMAAFLMAALVPIPALRAFSLOAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QAFTHCEASSQHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS
                                                                               QEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1081
                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1081
                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                                              19
                                                                               121
                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                               임
                                                                                                                                                                                                                                                                                                          원
                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                             g
                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                  ò
                                           셤
                                                                              à
                                                                                                                                               ò
                                                                                                                                                                         g
```

```
This protein is a splice variant encoded by the novel human patched 2 gene (PTCH2), which has been localised by radiation hybrid mapping to chromosome 1p32-35 with D1S211 and W11404 as closest flanking markers and with an estimated localisation 5.5 cR from D1S443. This region is often cost by LOH in various different tumour types, such as neuroblastoma, melanoma and breast and colon cancer. PTCH2 is a candidate for a tumour suppressor gene in this region. It is also a candidate gene for involvement in familial melanoma CMM1, modifiel clous for familial adenomatous polyposis hwom, and Michelin Tire Baby Syndrome. PTCH2 is capable of participating in the human patched gene/Sonic hedgehog (PTCH7KHH) pathway during embryonic development and/or carcinogenesis. Cr hisolated human protein is useful as a medicament for the treatment of a condition involving tumours such as BCC (basal cell carcinoma). The nucleic acid is useful in gene therapy, and for use as a probe, primer or diagnostic agent. Note: This sequence was constructed using information from Figure 2B and the protein sequence given on pages 41-44 of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cell
                                                                           Patched 2; PTCH2; 1p32-35; tumour suppressor; familial melanoma CMM1; familial adenomatous polyposis; hMom1; Michelin Tire Baby Syndrome; sonic hedgehog; SHH; development; carcinogenesis; cytostatic; basal cell carcinoma; gene therapy; chromosome 1p32-35; splice variant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Isolated human protein capable of participating in human patched gene/Sonic hedgehog pathway during embryonic development is used in medicament for treatment of condition involving tumors such as basal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3; Length 1203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ġ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rahnama
Human patched 2 (PTCH2) protein splice variant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unden AB, Toftgard R,
```

```
MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 839; DB; Pred. No. 0; 0; Mismatches
                                                                                                                            Human patched 2 (PTCH2) protein.
                                                                                                                                                                                                                                                                 (KARO-) KAROLINSKA INNOVATIONS (PHAA ) PHARMACIA & UPJOHN CO.
                                                                                                                                                                                                                                   99WO-SE001784.
                                                                                                                                                                                                                                                  98SE-00003393.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            69.7%;
                                                                                                                                                                                                                                                                                                                         N-PSDB; AAA09081, AAA09084.
                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches 1139; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                  WPI; 2000-303645/26
                                                                                                                                                                                                                                                                                        Zaphiropoulos PG,
Hollingsworth RE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1146 AA;
                                                                                                                                                                                                   WO200020037-A1
                                                                                                                                                                                    sapiens.
                                                                                                                                                                                                                                 06-OCT-1999;
                                                                                                             10-AUG-2000
                                                                                                                                                                                                                   13-APR-2000.
      1081
                                                                                                                                                                                                                                                                                                                                                                 carcinoma
                       1141
                                                                                             AAY92225;
                                                                                                                                                                                    Ношо
                                                                    g
                      ò
                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLAMMTVELFGIMGFLGIKLSAIPVV 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                             180
                                                                                             240
                                                                                                            240
                                                                                                                           300
                                             120
                                                                             180
                                                                                                                                           300
                                                                                                                                                           360
                                                                                                                                                                          360
                                                                                                                                                                                          420
                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                          420
                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                        999
                                                                                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                                       780
                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PAQPLEFAQFPFILIRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGI, 960
                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                     840
             9
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                              TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPFEWLHDKYDTTGENFRIP
                             LGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR
                                                           PPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK
                                                                                                    AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLLG
                                                                                                                                   AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG
                                                                                                                                                                    GMARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV
                                                                                                                                                                                                  AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                                                                                                                                                      LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG
                                                                                                                                                                                                                                                                                                                                                                 MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                       GMARDPQGELLRAEALQSTFLLMSPRQLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV
                                                                                                                                                                                          QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                                                                                                                                                                                                                                                  AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                                                                                                                       QAFTHCEASSQHVVTILPPQAHLVPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS
                                                                                                                                                                                                                                                                                                                                                                                                TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPFBWLHDKYDTTGENLRIP
                                                                                                                                                                                                                         SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE
                                                                                                                                                                                                                                                                                                                                 TKEHAFLSAQLRYFSLYBVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                                                                                                                     WLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                           181
                             61
                                            61
                                                            121
                                                                                                                                           241
                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                     781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1021
                                                                                            181
                                                                                                                           241
                                                                                                                                                         301
                                                                                                                                                                         301
                                                                                                                                                                                         361
                                                                                                                                                                                                         361
                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                     781
                                                                                                                                                                                                                                                                                                                                                                                                                                                    841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   961
                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    961
                                                                          a
                                                                                                       g
                                                                                                                                                                      g
                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
            셤
                            ò
                                                           ò
                                                                                          ઠે
                                                                                                                         Š
                                                                                                                                       g
                                                                                                                                                      જે
                                                                                                                                                                                       ò
                                                                                                                                                                                                    g
                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                       ሯ
                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                Š
```

```
This protein is encoded by the novel human patched 2 gene (PTCH2), which has been localised by radiation hybrid mapping to chromosome 1p32-35 with D1821 and WI1404 as closest flanking markers and with an estimated localisation 5.5 cR from D18443. This region is often lost by LOH in various different tumour types, such as neuroblastoma, melanoma and creat and colon cancer. PTCH2 is a candidate for a tumour suppressor gene in this region. It is also a candidate gene for involvement in familial melanoma CMM1, modifier locus for familial adenomatous polyposis hown and Michelin Tire Baby Syndrome. Splice variants of the PTCH2 gene exist (see AAA09082-84). PTCH2 is capable of participating in the human patched gene/Sonic hedgehog (PTCH/SHH) pathway during embryonic development and/or carcinogenesis. The isolated human protein is useful as a medicament for the treatment of a condition involving tumours such as a medicament for the treatment of a condition involving tumours such as a probe, primer or a diagnostic agent
                                   1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cell
FDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPEVIQMYKESPEILSPPAPQGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Isolated human protein capable of participating in human patched gene/Sonic hedgehog pathway during embryonic development is used in medicament for treatment of condition involving tumors such as basal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Patched 2; PTCH2; tumour suppressor; familial melanoma CMM1; familial adenomatous polyposis; hWoml; Michelin Tire Baby Syndrome; sonic hedgehog; SHH; development; carcinogenesis; cytostatic; basal cell carcinoma; chromosome 1p32-35; gene therapy.
                                                                                                                                                               LRWGASSSLPQSFARVITSMTVAIHPPPLPGAYIHPAPDEPPWSPAATSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  я,
,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rahnama
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ж,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unden AB, Toftgard
                                                                                                                                                                                                                                                                                                                                                                                                                                 ż
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 2; Page 41-44; 55pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AB.
                                                                                                                                                                                                                                                                                                                                                                                                                        AAY92225 standard; protein; 1146
```

ö

Length 1146; 3; Indels

B

ω

```
1081 FDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               41.3%; Sco...
100.0%; Pred. No. v.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 3; Page 17-19; 27pp; English.
                                                                                           Ą.
                                                                                                                                                                                                                                                                                                                                                                     Ĭ.
                                                                                           AAW82586 standard; protein; 529
                                                                                                                                                                                                                                                                                                                                                 (SMIK ) SMITHKLINE BEECHAM PLC.
                                                                                                                                                                                                                                                                                                 98EP-00303994.
                                                                                                                                                                                                                                                                                                                              98GB-00005954.
                                                                                                                                                                                                                                                                                                                     97GB-00010752
                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 497; Conservative
                                                                                                                                                     Human Patched-2 protein.
                                                                                                                                                                                                                                                                                                                                                                       Æ,
                                                                                                                                                                                                                                                                                                                                                                     Barnes
                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1998-596880/51.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                    N-PSDB; AAV69382.
                                         1142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 529 AA;
                      LR 1142
                                                                                                                                                                                                                                                                                                                                                                     DP,
                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                 20-MAY-1998;
                                                                                                                                                                                                                                                                                                                    23-MAY-1997;
                                        끔
                                                                                                                                  01-MAR-1999
                                                                                                                                                                                                                                                                                                                              19-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                           strokes.
                                                                                                                                                                                                                                                                              25-NOV-1998.
                                                                                                                                                                                                                                                         EP879888-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local &
                      1141
                                          1141
                                                                                                                                                                                                                                                                                                                                                                       Kelsell
                                                                                                                                                                                                                                                                                                                                                                                                                                            and
                                                                                 AAW8258
                                                                        RESULT
                                                                                           g
                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              960
                                                                                                               PPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK 240
                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                    99
                                                                                                                                                                                                                                                                                                                                                                                                                       099
                                                                                                                                                                                                                                                                                                                                                                                                                                           720
                                                                                                                                                                                                                                                                                                                                                                                                                                                             720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       780
                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                       QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ 420
                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                           180
                                                                                                                                                                    SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE 480
                                                                                                                                                                                                                                                                                                  480
                                                                        QEGENILIPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL 180
                                                                                                                                                       AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFWHWQEELLLG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                       TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPFWLHDKYDTTGENFRIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PAQPLEFAQFPFLLRGLQKTADFVEA1EGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RRCFLLAVCILLVCTFLVCALLILINDWTAGLIVLVLAMMTVELFGIMGFLGIKLSAIPVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG
                                                                                                                                                                                                                                                                                                                                                                          TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPBWLHDKYDTTGENLRIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PAOPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLAMMTVELFGIMGFLGIKLSAIPVV
                                                                                     QEGENILIPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIERMIEKL
                                                                                                                                                                                                                                                                                         SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAAFTE
                                                                                                                                                                                                                                                                                                                                     ALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                                    QAFTHCEASSQHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS
                                                                                                                                                                                                                                                                                                                                                                                                                 QAFTHCEASSQHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGGEEETRQKAACKS
                                                                                                                                                                                                                                                                                                                                                                                                                                            LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
  LGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR
                                            LGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEBAAYTSQMLIQTAR
                                                                                                                                                                                               GMARDPQGELLRAEALQSTFLLMSPRQLYBHFRGDYQTHDIGWSEEQASTVLQAWQRRFV
                                                                                                                                                                                                                                      QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                                                                                                                                                                                                                                                                       ALPGTPLOERMGECLORTGTSVVLTSINNMAAFLMAALVPIPALRAFSLOAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                             AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1081
                                                                                                                181
                                                                                                                                    181
                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1021
                                 61
                                                    61
                                                                         121
                                                                                            121
                                                                                                                                                                                               301
                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                 원
                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                      d
                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                             원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                   엄
                                                                                                                                                                         ద
                                                                                                                                                                                               ð
                                                                                                                                                                                                                                      à
                                                   셤
                                                                         à
                                                                                           셤
                                                                                                               ò
                                                                                                                                                        ò
                                 8
```

```
This sequence represents a human patched receptor (Patched-2)

Colypeptide. Patched-2 polypeptides and polymucleotides are useful for diagnosing susceptibility to diseases by detecting mutations in the patched-2 gene and can diagnose diseases associated with Patched-2 cimbalance. Patched-2 polypeptides can be used to screen for agonists and antagonists which bind the polypeptide by detecting Patched-2 mRNA levels in ELISA assays. These can be used in treatment to activate (agonist) or inhibit (antagonist) Patched-2 activity. Patched-2 antibodies are useful for inducing an immune response to immunise and prevent diseases and for inhibit (antagonist) Patched-2 activity. Patched-2 activity or properties by patched-2 polypeptides can be administered directly or chromatography. Patched-2 polypeptides can be administered directly or can vaccine to incculate against disease. Diseases diagnosed, prevented or treated include cancer, kidney disease. Diseases diagnosed, prevented or inflammatory disorders and developmental disorders including Ptosis.

Contomosome, allowing gene inhexitance to be studied through linkage and malysis. Patched-2 polypucides may be useful in tissue localisation studies e.g. in situ hybridisations, to determine expression patterns and indicate normal functions of the polypeptide in vivo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New Patched-2 polypeptide and polynucleotide - useful as diagnostic reagents and for prevention and treatment of Alzheimer's disease, cancer
Patched-2; human; patched receptor; diagnosis; disease; screening; immune response; immunise; vaccine; inoculation; treatment; cancer; kidney diseases; cardiovascular disease; stroke; inflammatory disorder; neurological disorder; Alzheimer's disease; Ptosis; gene mapping; linkage analysis; tissue localisation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 2; Length 529;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .,
```

Gaps

ö

752 752

셤

셤

ઠે

셤

ሯ

g

à

g

8

g

8

셤

ò 셤 ò

ð

```
patched-2 (Ptch-2) polypeptide. The invention also relates to signalling and mediator molecules in the hedgehog (Hh) cascade which are involved in cell proliferation and differentiation. The isolated sequence is useful for the treatment of disorders which are linked to Hedgehog, especially Desert hedgehog expression, such as testicular cancer. It may also be used as a hybridisation probe in a cDNA library to isolate Ptch-2 or its homologues, and to diagnose whether a disorder is driven by Ptch-2 or Hedgehog protein signalling. The present sequence is mouse patched-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New Patched-2 polypeptide and polynucleotide - useful as diagnostic reagents and for prevention and treatment of Alzheimer's disease, cancer
 comprising a native human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Patched-2; human; patched receptor; diagnosis; disease; screening; immune response; immunise; vaccine; inoculation; treatment; cancer; kidney diseases; cardiovascular disease; stroke; inflammatory disorder; neurological disorder; Alzhaimer's disease; Ptosis; gene mapping; linkage analysis; tissue localisation; expressed sequence tag; EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This sequence represents a human patched receptor (Patched-2) expressed sequence tag (EST) fragment HNFIR49. Patched-2 polypeptides and polymucleotides are useful for diagnosing succeptibility to diseases by detecting mutations in the Patched-2 gene and can diagnose diseases associated with Patched-2 imbalance. Patched-2 polypeptides can be used to screen for agonists and antagonists which bind the polypeptide by detecting Patched-2 mRNA levels in ELISA assays. These can be used in
                                                                                                                                                                                                                                                                                                      693 FGALLGLSLYGATLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHS
                                                                                                                                                                                                                   Length 1182;
                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                   Score 94; DB 5; I
Pred. No. 1.1e-80;
                                                                                                                                                                                                                                                                                                                                                   786
                                                                                                                                                                                                                                                                                                                                                                                    786
invention relates to an isolated sequence
                                                                                                                                                                                                        7.8%; Scor.
100.0%; Pred. No. 1...
                                                                                                                                                                                                                                                                                                                                                   ORALFDLHORFSSLKAVLPPPATQAPRTWLHYYR
                                                                                                                                                                                                                                                                                                                                                                    QRALFDLHQRFSSLKAVLPPPATQAPRTWLHYYR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human Patched-2 EST HNFIR49 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ž
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 19c; Page 19; 27pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (SMIK ) SMITHKLINE BEECHAM PLC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Testa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAW82587 standard; protein; 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           97GB-00010752.
98GB-00005954.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98EP-00303994.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                  94; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Barnes MR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1998-596880/51.
N-PSDB; AAV69383.
                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                  Sequence 1182 AA;
                                                                                                                                               protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-MAY-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23-MAY-1997;
19-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EP879888-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25-NOV-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kelsell DP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             strokes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAW82587;
                                                                                                                                                                                                                                                                                   693
                                                                                                                                                                                                                                                                                                                                                   753
                                                                                                                                                                                                                                                                                                                                                                                  753
                                                                                                                                                 (Ptch-2)
                                                                                                                                                                                                                 Query Match
Best Local 8
                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and
                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAW8258'
                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
셤
                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                           임
                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                240
                                                                             610
                                                                                                              120
                                                                                                                                               670
                                                                                                                                                                                180
                                                                                                                                                                                                                 730
                                                                                                                                                                                                                                                                                 790
                                                                                                                                                                                                                                                                                                  910
                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                    970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGLRRCFLLAVCI 480
                                                                                                                                                                                                                                                                                                                                                 GIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLTTRKLVDREGL 850
                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mouse; patched-2; Ptch-2; cell proliferation; differentiation; therapy; cytostatic; testicular cancer; hedgehog protein signalling.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               for treating disorders caused by testicular cancer, and for screening
          FARYQPAPLILQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRGTKEHAFLSAQ
                                                                                                                                                               SLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATVQAFTHCEASS
                                                                                                                                                                                                                                                                                                                                                                                                                                    IPPELFYMGLTVWVSSDPLGLAASQANFYPPPPBEMLHDKYDTTGENLRIPPAQPLEFAQF
                                                                             SUDLARRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATVQAFTHCEASS
                                                                                                                                             QHVVTILPPQAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKSLPCARWNLAH
                                                                                                                                                                                                              FARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRGTKEHAFLSAQ
                                                                                                                                                                                                                                                                               LRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRTWLHYYRNWLQ
                                                                                                                                                                                                                                                                                                                                                                                                                   851 IPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGENLRIPPAQPLEFAQF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGLRRCFLLAVCI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Native human patched-2 polypeptide
Hedgehog protein signaling such as
CDNA libraries.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        patched-2 (Ptch-2) protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAE19831 standard; protein; 1182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Example 1; Fig 8; 82pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LLVCTFLVCALLLLNPW 987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-00293505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             98US-0081884P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Carpenter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2002-215260/27.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             De Sauvage F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19-FEB-2002.
                                           ч
                                                                                                           61
                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     911
            191
                                                                             551
                                                                                                                                            611
                                                                                                                                                                              121
                                                                                                                                                                                                              671
                                                                                                                                                                                                                                                                               731
                                                                                                                                                                                                                                                                                                                                               791
                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAE19831;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mouse
```

α AAE1983 RESULT

g

```
treatment to activate (agonist) or inhibit (antagonist) Patched-2
activity. Patched-2 antibodies are useful for inducing an immune response
co immunise and prevent diseases and for isolating Patched-2 clones or
purifying the polypeptides by affinity chromatography. Patched-2
c polypeptides can be administered directly or as a vaccine to inoculate
against disease. Diseases diagnosed, prevented or treated include cancer,
kidney diseases, cardiovascular disease, stroke, inflammatory disorders,
c neurological disorders including Alzheimer's disease and mood disorders
and developmental disorders including Ptosis. The Patched-2 polypeptide
is also useful for mapping the gene to a chromosome, allowing gene
inheritance to be studied through linkage analysis. Patched-2
c inheritance to be studied through linkage analysis. Patched-2
c polymucleotides may be useful in tissue localisation studies e.g. in situ
hybridisations, to determine expression patterns and indicate normal
c functions of the polypeptide in vivo
                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA01910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, namunomodulatory activity and activity, tissue growth factor activity, immunomodulatory activity and activin/inhibin activity and may be useful in the diagnosis and/or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukemia, inflammation and immune disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; cytokine; cell proliferation; cell differentiation; gene therapy, vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 20; SEQ ID NO 15852; 1399pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                             Length 46;
                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   488 QERMGECLORTGISVVLTSINNMAAFLMAALVPIPALRAFSLQ 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4 QERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQ 46
                                                                                                                                                                                                                                                                                                                                                                                          3.6%; Score 43; DB 2; Le
100.0%; Pred. No. 8.5e-33;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AA001960 standard; protein; 119 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human polypeptide SEQ ID NO 15852.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-FEB-2001; 2001WO-US004927.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Tang YT, Liu C, Drmanac RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28-FEB-2000; 2000US-00515126.
18-MAY-2000; 2000US-00577409.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                06-NOV-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 100.
Matches 43; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2001-514838/56.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N-PSDB; AAI81891.
                                                                                                                                                                                                                                                                                                                                                   Sequence 46 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200164835-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAO01960;
                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AA001960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
```

```
The invention discloses a composition comprising two or more isolated rat or human polynuclectides or a polynuclectide which represents a fragment, derivative or allelic variation of the nucleic acid sequence. Also claimed are a vector comprising the novel polynuclectide, a host cell comprising the vector, a method for identifying a nuclectide sequence which is differentially regulated in an animal subjected to pain and a fit to perform the method, an array, a method for identifying a nuclectide sequence that increases or decreases the expression of the polynuclectide sequence that increases or decreases the expression of the polynuclectide sequence that increases or decreases the expression of the polynuclectide sequence the expression of a polynuclectide sequence which is differentially expressed in an animal subjected to pain, a method for identifying a compound that regulates the activity of one or more of the composition, a method for identifying a compound of identifying a compound or small molecule that regulates the activity in an animal of one or more of the polypeptides given in the specification, a method for identifying a compound useful in treating
                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sednence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               fragment,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Rat; pain; neuronal tissue; gene therapy; spinal segmental nerve injury; chronic constriction injury; CCI; spared nerve injury; SNI; Chung.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New composition comprising two or more isolated polypeptides, useful for preparing a medicament for treating pain in an animal.
treatment of cancer, leukaemia, nervous system disorders, arthritis and inflammation. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                            Gaps
                                                                                                                                                                          ö
                                                                                                                                      Length 119;
                                                                                                                                                                          Indels
                                                                                                                                  2.7%; Score 32; DB 4; L
100.0%; Pred. No. 7.7e-22;
ive 0; Mismatches 0;
                                                                                                                                                                                                               457 QVLPFLALGIGVDDVFLLAHAFTEALPGTPLQ 488
                                                                                                                                                                                                                                   33 QVLPFLALGIGVDDVFLLAHAFTEALPGTPLQ 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Costigan M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rat Protein AAC99398, SEQ ID NO 12361.
                                                                                                                                                                                                                                                                                                                                                  Ä.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Example 1; Page; 1017pp; English.
                                                                                                                                                                                                                                                                                                                                                  ADD46676 standard; protein; 608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Befort K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    14-AUG-2001; 2001US-0312147P.
01-NOV-2001; 2001US-0346382P.
26-NOV-2001; 2001US-0333347P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14-AUG-2002; 2002WO-US025765.
                                                                                                                                                                                                                                                                                                                                                                                                                         (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (GEHO ) GEN HOSPITAL CORP. (FARB ) BAYER AG.
                                                                                                                                                        Local Similarity 100.
nes 32; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Woolf C, D'urso D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2003-268312/26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENBANK; AAC99398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Rattus norvegicus.
                                                                                                  Sequence 119 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO2003016475-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                         02-DEC-2004
29-JAN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             27-FEB-2003.
                                                                                                                                                                                                                                                                                                                                                                                      ADD46676;
                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                              RESULT 11
                                                                                                                                                                                                                                                                                                                                ADD46676
                                                                                                                                                                                                                                                                                                                                                                      88888888
                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                     d
```

```
ö
pain and a pharmaceutical composition comprising the one or more polypeptides or their antibodies. The polynucleotide or the compound that modulates its activity is useful for preparing a medicament for treating pain (e.g. spinal segmental nerve injury (Chung), chronic constriction injury (CCI) and spared nerve injury (SNI) in an animal (e.g. gene therapy). The sequence presented is a rat protein (described in Table 3 of the specification) which is differentially expressed during pain. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic form directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                      compound that
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This is a nevoid basal cell carcinoma syndrome (NBCCS) (PTC) protein. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  encoding nucleic acid specifically hybridises, under stringent conditions, to a second nucleic acid consisting of a 6568 (full-length sequence), 1732 (exon 1a, b) (AAVI5998) or 659 (exon 2a) (AAVI5999) base pair sequence, in the presence of a human genomic library. The PTC polypeptide when presented as an antigen elicits the production of an antibody which specifically binds to a polypeptide encoded by the above three sequences. The NBCCS gene and its protein product, is a tumour suppressor, and is a homologue of the Drosophila PATCHED (PTC) gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Dean MF, Hahn H, Wicking C, Christiansen J, Zaphiropoulos PG;
Gailani MR, Shanley S, Chidambaram A, Vorechovsky I, Holmberg E;
Unden AB, Gillies S, Negus K, Smyth I, Pressman C, Leffell DJ;
Gerrard B, Goldstein A, Walnwright B, Toftgard R, Chevenix-Trench G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nevoid basal cell carcinoma syndrome tumour suppressor gene - useful for detection of pre:disposition to basal cell carcinoma(8).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nevoid basal cell carcinoma syndrome; NBCCS; PTC; PATCHED; detection; tumour suppressor; human; mutation; Gorlin's syndrome.
                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                 .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nevoid basal cell carcinoma syndrome (NBCCS) (PTC) protein.
                                                                                                                                                                                                                                                       1.2%; Score 15; DB 7; Length 608; 100.0%; Pred. No. 7.6e-05; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (USSH ) US DEPT HEALTH & HUMAN SERVICES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAW47157 standard; protein; 1296 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure, Fig 8; 148pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    96US-0017906P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        96AU-00000011.
96AU-00000363.
                                                                                                                                                                                                                                                                                                                                                            97WO-US008433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 97US-00857636
                                                                                                                                                                                                                                                                                                                                      451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               96US-0019765P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    27-MAY-1998 (first entry)
                                                                                                                                                                                                                                                                           Local Similarity 100.
18s 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1998-008883/01.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N-PSDB; AAV15949
                                                                                                                                                                                                                    Sequence 608 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO9743414-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16-MAY-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 16-MAY-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-NOV-1997.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21-MAY-1996;
07-JUN-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14-JUN-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAW47157;
                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 12
AAW47157
  888888888888888
                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                        a
```

```
Detection of the NBCCS nucleic acid, in particular abnormal sequences, by hybridisation assays is useful for detecting a predisposition to NBCCS or to a basal call carcinoma (also known as Gorlin syndrome). Alternatively, detection is of the polypeptide and is carried out by immunoassay.

Coronarian this nucleic acid can be used to treat NBCCS. The PTC perform an includes one or more mutations, chosen from Exon-5 693insC, Exon-17 298deal8bp, Exon-13 353dealG, Exon-22 G4302T, Exon-12 171insC, Exon-12 1639insA, E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mouse patched protein (PTC) (AAR94380) was identified as the product of a cDNA clone (AAT14218) derived from mouse limb bud. It has about 38% identical amino acids to Drosophila PTC. PTC protein has been proposed as a receptor for hedgehog protein on basis of genetic experiments in flies. Murine PTC protein can be obtd. in large amounts by expression of the cDNA clone in transformed host cells. It can be used to screen for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA encoding patched protein other than Drosophila patched protein – used to produce antibodies which detect or inhibit patched protein ligand
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Patched gene, PTC protein, embryo development, cellular regulation, signal transduction, ligand, antibody, hedgehog protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 1296;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 15; DB 2; Le
Pred. No. 0.00015;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.2%; Sco...
100.0%; Pred. No. ...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Page 46-51; 70pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (STRD ) UNIV LELAND STANFORD JUNIOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAR94380 standard; protein; 1434 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Goodrich LV, Johnson RL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              signal transduction in cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             95WO-US013233.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         344 FNAATTOVLPFLALG 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          451 FNAATTOVLPFLALG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mouse patched protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
.....hes 15; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1996-209842/21.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 1296 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N-PSDB; AAT14218.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO9611260-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             06-OCT-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            07-OCT-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11-JUL-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18-APR-1996.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Scott MP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAR94380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 13
AAR94380
             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         요
```

```
This is a mouse patched (ptc) protein. The encoding DNA can be used to construct an expression cassette comprising an altered patch or hedgehog construct an expression cassette comprises a nucleic acid encoding a patched protein other than a Drosophila melanogaster patched protein, or fragment of at least 12 nucleotides in length, as other than an intact chromosome under transcriptional control of a transcriptional in an expression control of a transcriptional termination region, both functional in an expression cassette as an extrachromosomal element or integrated into the genome of the cell can be predisposed to develop basal cell carcinoma as a result of the transfection. By analysing nRA, functional analysis of patched protein, a genetic predisposition to develop binding to abnormal patched cancer can be diagnosed. This analysis can also be used for characterising the phenotype of a tumour, particularly a carcinoma, especially a basal cell carcinoma. The methods can also be used for characterising the phenotype of a tumour, particularly a carcinoma, especially a basal cell carcinoma. The methods can also be used for characterising the phenotype of a tumour, particularly a carcinoma, especially a basal cell carcinoma. The methods can also be used for characterising the nonorgeness, signal transduction, etc. Transgenic animal condels created from these cells can be used as animal models for carcinomas of the skin. The patched protein of human or mouse beetle or alternatively, a mammalian patched protein of human or mouse
                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Patched protein other than Drosophila melanogaster patched protein - used for characterising the phenotype of a tumour.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tumour suppressor; cell adhesion promoter;
agonists and antagonists, to isolate its ligand, partic. Sonic hedgehog, to assay for the transcription of ptc mRNA and to raise antibodies
                                                                                                                                      Gaps
                                                                                                                                      .;
0
                                                                                              Length 1434;
                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Oro A;
                                                                                            Score 15; DB 2; Le
Pred. No. 0.00016;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Epstein E,
                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Johnson RL,
                                                                                                                                                                                                                                                                                                          AAW52199 standard; protein; 1434 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (STRD ) UNIV LELAND STANFORD JUNIOR. (REGC ) UNIV CALIFORNIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 5; Page 66-71; 86pp; English.
                                                                                1.2%; Scc.
100.0%; Pred
0; N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Patched protein; ptc; cancer; wound healing; ageing; mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           97WO-US009553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 96US-00656055
                                                                                                                                                                          465
                                                                                                                                                                                                          481 FNAATTOVLPFLALG 495
                                                                                                                                                                                                                                                                                                                                                                                                                             Mouse patched (ptc) protein.
                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                    Ouery Match
Best Local Similarity 100.0
Matches 15; Conservative
                                                                                                                                                                      451 FNAATTQVLPFLALG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Scott MP, Goodrich LV,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI: 1998-032648/03.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; AAV21589.
                                                        Sequence 1434 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 W09745541-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           02-JUN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 31-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                                                     25-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     04-DEC-1997
                                                                                                                                                                                                                                                                                                                                                  AAW52199;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mus sp.
                                                                                                                                                                                                                                                                        RESULT 14
                                                                                                                                                                                                                                                                                            AAW52199
                                                                                                                                                                                                                                                                                                                                                  ន្តដ្ឋប្រ
                                                                                                                                                                          δ
                                                                                                                                                                                                          a
```

```
The present sequence represents the mouse patched (ptc) protein. Cells containing and expressing the ptc gene are used for the recombinant production of the protein. These in turn are useful: (i) for generating antibodies (Ab); and (ii) to screen for specific-binding ligands cantibodies (Ab); and (ii) to screen for specific-binding ligands (potential therapeutic agonists and antagonists). The ptc gene, or its fragments, are used to isolate related sequences from other mammals; to identify mutations (particularly those associated with genetic diseases such as spina bifida and other developmental disorders); to monitor expression lavels in testis (to determine relationship with sperm production) and to isolate 5'-non-coding sequences (used to study embryonic development and to provide regulated expression of proteins). The complete gene can be used in gene therapy, including expression of antisense molecules, and to generate transgenic animals for studies of embryonic development. Ab are used diagnostically to determine the ptc protein on cell surfaces and as competitive inhibitors of signal transduction through the ptc ligand. Cells that have been engineered to express the ptc protein can be used to promote regrowth and healing of damaged tissue (e.g. growth of new teeth) and regulation of the ptc protein expression may be useful in cancer treatment (it may control the Wnt-1 oncogene)
                                                                                                                                                                ·;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nucleic acid encoding vertebrate patched protein and related transformants - used to express poly:peptide(s), useful for diagnosis and treatment of developmental disorders or cancer, and in healing of injured
      or
can be used to identify ligands or substrates that bind to, modulate, o mimic the action of patched gene. These agents could be used as tumour suppressors, cell adhesion promoters (e.g. in wound healing and ageing)
                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mouse; patched gene; diagnosis; treatment; developmental disorder; cancer; healing; injured tissue; ptc; spina bifida; Wnt-1 oncogene; sperm production; gene therapy.
                                                                                                                                                                  ö
                                                                                                                        1.2%; Score 15; DB 2; Length 1434; 00.0%; Pred. No. 0.00016;
                                                                                                                                                                0; Indels
                                                                                                                            Query Matcn
Best Local Similarity 100.0%; Pred. NO. V.V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Goodrich LV, Johnson RL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (STRD ) UNIV LELAND STANFORD JUNIOR.
                                                                                                                                                                                                                                                                                                                                                   AAW72968 standard; protein; 1434 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 23; Col 49-56; 38pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             94US-00319745.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       95US-00540406.
                                                                                                                                                                                                          451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mouse patched protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1999-023461/02.
N-PSDB; AAV64092.
                                                                                    Sequence 1434 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       06-OCT-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07-0CT-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                   26-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US5837538-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-NOV-1998.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scott MP,
                                                                                                                                                                                                                                                                                                                                                                                           AAW72968;
                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus sp.
                                                                                                                                                                                                                                                                                                                                                                          8X3333
                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                g
```

X S

```
gene are characteristic in beams cell nevus syndrome (BCNS), an inherited disorder with an increased risk of developmental disorders such as spina bifida and craniofacial abnormalities, beams cell carcinoma of the skin and brain tumours. The human and mouse ptc sequences show 86% homology. The transgenic mouse of the invention has a genome comprising a disruption of at least one allele of a patched locus, where the transgenic mouse is useful for studying patched function and regulation, for e.g. a series of small deletions and/or substitutions made in the patched gene, to determine the role of different exons in oncogenesis, signal transduction, etc.; and for drug screening which is useful for treating cancer or developmental abnormalities attributed to a defect in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Transgenic mouse, useful for cancer drug screening, comprises disruption of allele of patched locus which predisposes the mouse to develop a proliferative disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This sequence shows mouse patched (ptc) protein. Mutations in the patched
                                                                                                                                      developmentai disorder; spina bifida; craniofacial abnormalíty; basal cell carcinoma; skin; brain tumour; transgenic; mouse; proliferation; oncogenesis; signal transduction; cancer; aging.
                                                                                                                       basal cell nevus syndrome; BCNS; wound healing;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   patched function such as wound healing and aging
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 15; DB 5; L Pred. No. 0.00016;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Epstein E;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                       /note= "Encoded by TCC"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Col 69-78; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Johnson RL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABU62271 standard; protein; 1434 AA.
                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (STRD ) UNIV LELAND STANFORD JUNIOR (REGC ) UNIV CALIFORNIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1.2%; Scc...
100.0%; Pred
0; P
                                                                                                                                                                                                                                                                                                                                                                                                                               94US-00319745.
95US-00540406.
                                                                                                                                                                                                                                                                                                                                                                                                97US-00918658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   96US-00656055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481 FNAATTQVLPFLALG 495
                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Goodrich LV,
                                                                                        protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
----hes 15; Conservat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2002-722086/78.
N-PSDB; ABA00375.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 1434 AA;
                                                                                                                                                                                                                                                                    Misc-difference
                                                                                      Mouse patched
                                                                                                                       Patched; ptc;
                                                                                                                                                                                                                                                                                                                                                                                                                               07-OCT-1994;
06-OCT-1995;
31-MAY-1996;
                                                                                                                                                                                                               Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                22-AUG-1997;
                                                  23-DEC-2002
                                                                                                                                                                                                                                                                                                                        US6429354-B1
                                                                                                                                                                                                                                                                                                                                                            06-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scott MP,
                AAG79572;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ABU62271;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ABU62271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SX5
. යු
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present invention provides a monoclonal antibody which specifically binds to a patched protein (PTC) other than that from Drosophila. Also given are the protein and coding sequences of patched from the beetle, mouse, butterfly, fruit fly, mosquito and human. Patched is a segment polarity gene involved in limb patterning. The sequences can be used to study development and to isolate the patched ligand, hedgehog. In addition, antibodies can be used to detect the PTC protein on cell surfaces or to inhibit the transduction of signal by the PTC ligand by competing for its binding site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel monoclonal antibody useful in diagnostic assays for detection of presence of protein on surface of cells specifically binds to naturally occurring patched protein, other than Drosophila patched protein.
                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                patched; PTC; segment polarity; limb patterning; development;
                                                                                      ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1.2%; Score 15; DB 4; Length 1434;
100.0%; Pred. No. 0.00016;
                                                1.2%; Score 15; DB 2; Length 1434; 00.0%; Pred. No. 0.00016;
                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Indels
                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Col 47-54; 39pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAG79572 standard; protein; 1434 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Johnson RL;
                                                                                                                                                                                                                                                   AAB67159 standard; protein; 1434 AA.
                                                    100.08; Pr.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (STRD ) UNIV LELAND S STANFORD
                                                                                                                                                           495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97US-00954668.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               94US-00319745.
95US-00540406.
                                                                                                                       465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                hedgehog; antibody; human.
                                                                   Best Local Similarity 100.
Matches 15; Conservative
                                                                                                                       451 FNAATTOVLPFLALG
                                                                                                                                                       481 FNAATTOVLPFLALG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Goodrich LV,
                                                                                                                                                                                                                                                                                                                                                            Murine patched protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2001-136884/14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-PSDB; AAF32180.
                Sequence 1434 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 1434 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20-OCT-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07-OCT-1994;
06-OCT-1995;
                                                                                                                                                                                                                                                                                                                       12-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    386172200-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        09-JAN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Scott MP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                       AAB67159;
                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mus sp.
```

\$\frac{1}{2}\$\frac

Mouse;

RESULT 16

ઠ 셤 ö

Gaps

. 0

Matches

ઠે a RESULT 17 AAG79572 ID AAG79

Length 1434; Indels (first entry)

```
Mouse, patched gene; ptc; developmental abnormality;
proliferative disorder; tumour; oncogenic patched mutation;
patched-associated phenotype; basal cell nevus syndrome; BCNS; carcinoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Assay for phenotyping patched status of cell in mammalian (preferably human) cell sample, involves detecting presence or absence of aberrant modification or mutation of a patched gene, and mis-expression of patched
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Goodrich LV, Johnson RL, Epstein E;
                                                                                                                                                                                                                                                                                                                                                                                                         28-NOV-2000; 2000US-00724631.
                                                                                                                                                                                                                            meningioma; fibroma; cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (REGC ) UNIV CALIFORNIA.
                                                                                                              Murine ptc polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (STRD ) UNIV STANFORD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2003-615308/58.
N-PSDB; ADE94214.
                                                                 12-FEB-2004
                                                                                                                                                                                                                                                                                                                   US6551782-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                      07-OCT-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         06-OCT-1995;
31-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                               22-APR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Scott MP,
                       ADE94215;
                                                                                                                                                                                                                                                                        Mus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
The invention relates to a DNA sequence other than present in chromosome encoding a patched (ptc) gene other than Drosophila patched gene. A cell expressing the DNA sequence is useful for producing patched protein, by growing the cell expressing the DNA sequence, where the patched protein, by growing the cell expressing the DNA sequence, where the patched protein. It is expressed and isolating the patched protein free of other proteins. Combining the compounds for binding affinity to the patched protein, by combining the candidate protein with the cell expressing the DNA sequence comprises the entire coding sequence under the transcriptional regulation of the transcriptional initiation region and transcriptional termination region functional in the cell, expressing the patched protein in the cell and assaying for the binding of the candidate compound to the patched protein. The above cell is useful for screening candidate compounds for agonist activity with the patched protein. The producing all or portions of the patched protein. The protein, as probes for research, diagnosis, binding of hedgebog protein in the cell is useful for producing all or portions of the patched protein. The protein, as probes for research, diagnosis, binding of hedgebog protein for the patched protein and in gene therapy. The DNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New DNA sequence other than present in a chromosome encoding patched gene other than Drosophila patched gene, useful for preparing transgenic laboratory animals and to knock out patched protein in embryonic stem
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       is also useful as primers for investigating other species and for isolating genes from various mammalian sources of interest, particularly from humans or from domestic animals. The DNA sequence is further useful for preparing transgenic laboratory animals and to knock out the PTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein in the embryonic stem cells, so as to produce hosts with single functional patched gene. The present sequence represents the amino acid sequence of the mouse patched gene PTC product
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1434;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                              Mouse; patched gene; PTC; hedgehog protein; gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1.2%; Score 15; DB 7; Le
100.0%; Pred. No. 0.00016;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Page 8-10; 40pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Johnson RL;
                                                                 Mouse patched gene PTC product
                                                                                                                                                                                                                                                                                             97US-00954701.
                                                                                                                                                                                                                                                                                                                                        94US-00319745.
95US-00540406.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              465
                     25-AUG-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            451 FNAATTOVLPFLALG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Scott MP, Goodrich LV,
                                                                                                                                                                                                                                                                                                                                                                                                         (SCOT/) SCOTT M P. (GOOD/) GOODRICH L V.
                                                                                                                                                                                                                                                                                                                                                                                                                                 (GOOD/) GOODRICH L V (JOHN/) JOHNSON R L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2003-492065/46.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1434 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N-PSDB; ACA62834
                                                                                                                                                                                                    US2003032085-A1
                                                                                                                                                                                                                                                                                             20-OCT-1997;
                                                                                                                                                                                                                                                                                                                                          07-OCT-1994;
                                                                                                                                                                                                                                                                                                                                                               06-OCT-1995;
                                                                                                                                                                                                                                                 13-FEB-2003
                                                                                                                                                          Mus sp
```

94US-00319745. 95US-00540406. 96US-00656055. 97US-00918658.

```
The invention relates to an assay for phenotyping the patched status of a cell, involving detecting in vitro, in a sample of mammalian cells, the presence or absence of a genetic lesion in a patched gene (ptc) characterised by at least one of an aberrant modification or mutation of characterised by at least one of an aberrant modification or mutation of a patched gene or mis-expression of the patched gene. The invention also call developmental abnormality or proliferative disorder, where the developmental abnormality or proliferative disorder, where the cherry or activity of a patched gene or gene product, involving detecting in vitro the presence of a predisposing mutation in cells of the animal. Characterising the phenotype of a tumour, involves detecting the presence of an oncogenic mutation in cells of the tumour, where the presence of the oncogenic mutation in cells of the tumour, where the presence of the concogenic mutation in cells of the tumour was a patched associated phenotype. The assay is useful for phenotyping the patched associated phenotype. The assay is useful for phenotyping the patched status of the cell in a mammalian cell sample obtained from a human patient. The disorders that can be meninglomes and tibromas. This sequence represents a murine ptc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1.2%; Score 15; DB 7; Length 1434; 00.00%; Pred. No. 0.00016; ve 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Pred. No. 0.0 tive 0; Mismatches
Disclosure, SEQ ID NO 10; 57pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         polypeptide of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1434 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
```

RESULT 20 ADH62722

ADE94215 standard; protein; 1434 AA.

RESULT 19 ADE94215

481 FNAATTOVLPFLALG 495

ð

Mus sp.

```
The invention describes an assay for phenotyping the patched status of a cell comprising detecting in a sample of mammalian cells the presence or absence of a genetic lesion having aberrant modification or mutation of a patched gene or mis-expression of the patched gene. The assay is useful for diagnosing a genetic predisposition of an animal, e.g. basal cell nevues syndrome, predisposition for developing tumour, i.e. carcinoma, meningioma, medulloma, or fibroma. A genetic construct encoding a patched polypeptide is used to treat an animal having a disorder comprising loss of function of a wild-type patched gene, such as cancer, and can enhance batch function in e.g. wound healing and aging. This sequence is encoded by the mouse patched gene.
                                                                                                                                                                                                                                                                                                                                                                                             Phenotyping the patched status of a cell for diagnosing a genetic predisposition for a tumor comprises detecting the presence or absence of a genetic lesion having aberrant modification, mutation or mis-expression of the patched gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Patched gene, PTC protein, embryo development; cellular regulation; signal transduction; ligand; antibody; hedgehog protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.2%; Score 15; DB 8; Length 1434;
100.0%; Pred. No. 0.00016;
.ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                   Epstein E;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; SEQ ID NO 10; 60pp; English.
                                                                                                                                                                                                                                                                                                Scott MP, Goodrich LV, Johnson RL,
                                                                                                                                                                                                                                     (STRD ) UNIV LELAND STANFORD JUNIOR. (REGC ) UNIV CALIFORNIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAR75375 standard; protein; 1447 AA.
                                                                                                                                 950S-00540406.
96US-00656055.
97US-00918658.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                465
                                                                               22-APR-2003; 2003US-00421446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481 FNAATTOVLPFLALG 495
                                                                                                                                                                                                  28-NOV-2000; 2000US-00724631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            451 FNAATTQVLPFLALG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human patched protein.
                                                                                                                                                                                                                                                                                                                                       WPI; 2004-041193/04.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 1434 AA;
                                                                                                                                                                                                                                                                                                                                                          N-PSDB; ADE48979
    US2003186309-A1
                                                                                                                                         06-OCT-1995;
31-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO9611260-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30-JUL-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                            22-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18-APR-1996.
                                        02-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAR75375;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAR75375
    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New DNA sequences encoding patched protein from organisms including human and mouse are used to elucidate embryonic development and cellular regulation associated with patched signal transduction and identify
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present invention relates to a DNA sequence encoding a patched (PTC) gene. The invention is used to elucidate embryonic development, cellular regulation associated with signal transduction by the patched gene, identify agonists and antagonists of that signal transduction, identify and isolate ligands of patched protein and assay for levels of transcription of the patched gene. The present sequence is the mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cytostatic; vulnerary; gene therapy; phenotyping; patched status; patched gene; genetic predisposition; basal cell nevus syndrome; tumour; carcinoma; meningioma; medulloma; fibroma; cancer; wound healing; aging; mouse; pathched gene; ptc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.2%; Score 15; DB 7; Length 1434; 100.0%; Pred. No. 0.00016; ve 0; Mismatches 0; Indels
                                                                                                                                                         embryonic development; cellular regulation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; SEQ ID NO 10; 40pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADE48980 standard; protein; 1434 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Johnson RL;
ADH62722 standard; protein; 1434 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; PER
                                                                                                                                                                                                                                                                                                                                                                          94US-00319745.
95US-00540406.
97US-00954668.
                                                                                                                    Mouse patched (mptc) protein.
                                                                                                                                                                                                                                                                                                                                     03-JAN-2001; 2001US-00754032.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481 FNAATTOVLPFLALG 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mouse patched protein (ptc)
                                                                                                                                                       PTC; patched; embryonic designal transduction; mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29-JAN-2004 (first entry)
                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity 100.
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Scott MP, Goodrich LV,
                                                                                                                                                                                                                                                                                                                                                                                                                                                        (STRD ) UNIV STANFORD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2003-897566/82.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 1434 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; ADH62721.
                                                                                                                                                                                                                                                       US2003148388-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         patched ligands.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         patched protein.
                                                                             25-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                            07-OCT-1994;
                                                                                                                                                                                                                                                                                                                                                                                               06-OCT-1995;
20-OCT-1997;
                                                                                                                                                                                                                                                                                              07-AUG-2003
                                      ADH62722;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADE48980;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
```

ö

Gaps

ö

95WO-US013233

06-OCT-1995; 07-OCT-1994;

94US-00319745

ВĎ.

Mus

RESULT 21

ઠે 유 ADE48980

```
cassette as an extrachromosomal element or integrated into the genome of the cell can be predisposed to develop basal cell carcinoma as a result of the transfection. By analysing DNA, functional analysis of patched protein, a genetic predisposed to develop basal cell carcinoma as a result of the transfection. By analysis pay, functional analysis of patched protein, a genetic predisposition to developmental abnormal patched cancer can be diagnosed. This analysis can also be used for cancer can be diagnosed. This analysis can also be used for characterising the phenotype of a tumour, particularly a carcinoma, especially a basal cell carcinoma. The methods can also be used for characterising transitional cell carcinoma. The methods can also be used for cancer can be used to determine the role of different exons of the patched gene in oncogenesis, signal transduction, etc. Transgenic animal carcinomas of the skin. The patched protein of models created from these cells can be used so animal models for carcinomas of the skin. The patched protein of models can be used to identify ligands or substrates that bind to, modulate, or minic the action of patched gene. These agents could be used as tumour subpressors, cell adhesion promoters (e.g. in wound healing and ageing)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nucleic acid encoding vertebrate patched protein and related transformants - used to express poly:peptide(s), useful for diagnosis and treatment of developmental disorders or cancer, and in healing of injured
of at least 12 nucleotides in length, as other than an intact chromosome under transcriptional control of a transcriptional initiation region, and a transcriptional termination region, both functional in an expression host. A genetically engineered mammalian cell comprising this expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present sequence represents the human patched (ptc) protein. Cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; patched gene; diagnosis; treatment; developmental disorder; cancer; healing; injured tissue; ptc; spina bifida; Wnt-1 oncogene; sperm production; gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 1447;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.2%; Score 15; DB 2; Le
100.0%; Pred. No. 0.00016;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAW72969 standard; protein; 1447 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (STRD ) UNIV LELAND STANFORD JUNIOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Goodrich LV, Johnson RL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 23; Col 63-70; 38pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              95US-00540406.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 94US-00319745.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FNAATTOVLPFLALG 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human patched protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1999-023461/02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-PSDB; AAV64093.
                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 1447 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human; patched cancer; healing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                06-OCT-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 07-OCT-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US5837538-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           17-NOV-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Scott MP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAW72969;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAW72969
   음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                 Human patched protein (PTC) (AAR75375) was identified as the product of a CDNA clone (AAT14220) derived from human lung. It has 96% identity and 98% similarity to mouse PTC. PTC protein has been proposed as a receptor for hedgehog protein on the basis of genetic experiments in files. Human PTC protein can be obtd. in large amounts by expression of the cDNA clone in transformed host cells. It can be used to screen for agonists and antagonists, to isolate its ligand, partic. Sonic hedgehog, to assay for the transcription of ptc mRNA and to raise antibodies
                                                                                                                             DNA encoding patched protein other than Drosophila patched protein – used to produce antibodies which detect or inhibit patched protein ligand
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This is a human patched (ptc) protein. The encoding DNA can be used to construct an expression cassette comprising an altered patch or hedgehog gene. The expression cassette comprises a nucleic acid encoding a patched protein other than a Drosophila melanogaster patched protein, or fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Patched protein other than Drosophila melanogaster patched protein – used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Patched protein; ptc; cancer; tumour suppressor; cell adhesion promoter;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                  1.2%; Score 15; DB 2; Length 1447; 00.0%; Pred. No. 0.00016; ve 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Oro A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Epstein E,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              for characterising the phenotype of a tumour.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Johnson RL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (STRD ) UNIV LELAND STANFORD JUNIOR. (REGC ) UNIV CALIFORNIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAW52200 standard; protein; 1447 AA.
 (STRD ) UNIV LELAND STANFORD JUNIOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 4; Page 76-80; 86pp; English.
                                                                                                                                                                                                   Example; Page 56-61; 70pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                     1.2,,
100.0%; Pre-
                                                                                                                                                              signal transduction in cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                wound healing; ageing; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           97WO-US009553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                96US-00656055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   495 FNAATTQVLPFLALG 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FNAATTQVLPFLALG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Scott MP, Goodrich LV,
                                   Goodrich LV,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1998-032648/03.
N-PSDB; AAV21590.
                                                                      WPI; 1996-209842/21.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          patched (ptc)
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sest Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1447 AA;
                                                                                         N-PSDB; AAT14220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           02-JUN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO9745541-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         04-DEC-1997.
                                     Scott MP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAW52200;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            d
```

Gaps

```
production of the protein. These in turn are used. It for generating antibodies (Ab); and (ii) to screen for specific-binding ligands (potential therapeutic agonies and antagoniets). The ptc gene, or its fragments, are used to isolate related sequences from other mammals; to identify mutations (particularly those associated with genetic diseases such as spina bifida and other devolopmental disorders); to monitor expression levels in testis (to determine relationship with sperm production) and to isolate 5'-non-coding sequences (used to study embryonic development and to provide regulated expression of proteins). The complete gene can be used in gene therapy, including expression of antisense molecules, and to generate transgenic animals for studies of embryonic development. Ab are used diagnostically to determine the ptc protein on cell surfaces and as competitive inhibitors of signal transduction through the ptc ligand. Cells that have been engineered to express the ptc protein can be used to promote regrowth and healing of damaged tissue (e.g. growth of new teeth) and regulation of the ptc protein expression may be useful in cancer treatment (it may control the
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present invention provides a monoclonal antibody which specifically binds to a patched protein (PTC) other than that from Drosophila. Also given are the protein and coding sequences of patched from the beetle, mouse, butterfly, fruit fly, mosquito and human. Patched is a segment polarity gene involved in limb patterning. The sequences can be used to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel monoclonal antibody useful in diagnostic assays for detection of presence of protein on surface of cells specifically binds to naturally occurring patched protein, other than Drosophila patched protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human, patched; PTC; segment polarity; limb patterning; development;
hedgehog; antibody; mouse.
 and expressing the ptc gene are used for the recombinant
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1447;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                 1.2%; Score 15; DB 2; Le
100.0%; Pred. No. 0.00016;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure, Col 61-70; 39pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAB67163 standard; protein; 1447 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Johnson RL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (STRD ) UNIV LELAND S STANFORD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          97US-00954668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             94US-00319745.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       495 FNAATTQVLPFLALG 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity 100.
15, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FNAATTQVLPFLALG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Scott MP, Goodrich LV,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human patched protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2001-136884/14.
                                                                                                                                                                                                                                                                                                                                                                               Sequence 1447 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; AAF32185.
                                                                                                                                                                                                                                                                                                                                              Wnt-1 oncogene)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20-OCT-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US6172200-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             07-OCT-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-OCT-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     09-JAN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 451
                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAB67163
                                                                                                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 25
ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
```

```
study development and to isolate the patched ligand, hedgehog. In addition, antibodies can be used to detect the PTC protein on cell surfaces or to inhibit the transduction of signal by the PTC ligand by competing for its binding site
                                                                                         Gaps
                                                                                                                                                                                                                                                             Human; patched; Ptch; cell proliferation; differentiation; therapy; cytostatic; testicular cancer; hedgehog protein signalling.
                                                                                        ö
                                                                   1.2%; Score 15; DB 4; Length 1447;
100.0%; Pred. No. 0.00016;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                          note-
101 -433
/label= TM3
---- "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                   138. .458
/label= TM2
/note= "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1abel= TM6
|note= "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        note= "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            note= "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                          'note= "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                note= "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      note= "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    note= "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                note= "Transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                  /note=
548. 570
/label= TM5
`~~ "Transmembrane dv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             note= "Transmembrane
                                                                                                                                                                               AAE19830 standard; protein; 1447 AA.
                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                        Human patched (Ptch) protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1155. .1178
/label= TM12
                                                                                                           451 FNAATTOVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1078. .1097
/label= TM10
                                                                                                                       495 FNAATTQVLPFLALG 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .122. .1141
'label= TM11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    751. .769
/label= TM7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1052. .1074
/label= TM9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .028. .1048
|abel= TM8
                                                                                                                                                                                                                                                                                                                          100. .119
/label= TM1
                                                                                                                                                                                                                    (first entry)
                                                                                        15; Conservative
                                                                             Similarity
                                                 Sequence 1447 AA;
                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US6348575-B1
                                                                                                                                                                                                                     18-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19-FEB-2002
                                                                                                                                                                                                  AAE19830;
                                                                     Query Match
                                                                              Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Domain
                                                                                                                                                                                                                                                                                                                        Domain
                                                                                                                                                                                                                                                                                                                                                     Domain
                                                                                                                                                                                                                                                                                                                                                                                                              Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Domain
                                                                                                                                                                                                                                                                                                                                                                                  Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                             Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Domain
                                                                                        Matches
                                                                                                                                                           RESULT 26
AAE19830
 8888888
                                                                                                                             용
                                                                                                                                                                               ઠે
```

```
The invention relates to an isolated TRC8 (Translocation in Renal cancer from Chromosome 8) nucleic acid molecule, encoding a polypeptide comprising a sequence of 64 amino acids fully defined in the specification and comprising a sequence located in the 5' flanking region to the coding region of TRC8 and a sequence which occurs in certain sporadic renal cell carrinomas. The methods are useful for detecting the presence of the TRC8 gene in a biological sample, detecting alterations to the gene, such as a 3;2 human chromosomal translocation, and fused DNA containing the fused site of TRC8/FHIT. A nucleic acid probe is useful for detecting the 3;8 human chromosomal translocation, by contacting the nucleic acid probe with a biological sample to be tested, and determining whether the nucleic acid probe specifically hybridises to the TRC8FHIT or FHITTRC8 fusion DNA. This sequence represents a TRC8 related protein of
detection of tumors, comprises rearrangements in the t\,(3;8)\,(p14.2;q24.1) chromosomal translocation which occurs in renal and thyroid carcinomas.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Patched; ptc; basal cell nevus syndrome; BCNS; wound healing; developmental disorder; spina blitia; craniofacial abnormality; basal cell carcinoma; skin; brain tumour; transgenic; mouse; proliferation; oncogenesis; signal transduction; cancer; aging.
                                                                                                                                                                                                                                                                                                                                              1.2%; Score 15; DB 5; Length 1447; 100.0%; Pred. No. 0.00016;
                                                                                                                                                                                                                                                                                                                                                       100.0%; Pred. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'note= "Encoded by GAG"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       'note= "Encoded by CCG"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Johnson RL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAG79571 standard; protein; 1447 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (STRD ) UNIV LELAND STANFORD JUNIOR. (REGC ) UNIV CALIFORNIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                               Disclosure; Fig 2D; 49pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note= "Encoded
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              94US-00319745.
95US-00540406.
96US-00656055.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                97US-00918658
                                                                                                                                                                                                                                                                                                                                                                                                            FNAATTOVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                         495 FNAATTOVLPFLALG 509
                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Local Similarity
Local Similarity
Local Similarity
Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Goodrich LV,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human patched protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2002-722086/78.
N-PSDB; ABA00374.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Misc-difference 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Misc-difference 413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Misc-difference 864
                                                                                                                                                                                                                                                                                                                Sequence 1447 AA;
                                                                                                                                                                                                                                                                                     the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07-OCT-1994;
06-OCT-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23-DEC-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US6429354-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Scott MP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAG79571;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAG7957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                 The invention relates to an isolated sequence comprising a native human patched-2 (Ptch-2) polypeptide. The invention also relates to signalling and mediator molecules in the hedgelog edgelog (Hh) cascade which are involved in cell proliferation and differentiation. The isolated sequence is useful for the treatment of disorders which are linked to Hedgehog, especially besert hedgehog expression, such as testicular cancer. It may also be used as a hybridisation probe in a cDNA library to isolate Ptch-2 or Hedgehog protein signalling. The present sequence is human patched (Ptch) protein. Note: The sequence shown as SEQ ID NO: 4 in sequence listing of the specification is a fragment of the sequence shown as SEQ ID NO: 4 in fig 3 of the specification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TRC8; Translocation in Renal cancer from Chromosome 8; fused DNA; 3,2; FHIT/TRC8 fusion DNA; sporadic renal cell carcinoma; TRC8/FHIT; TRC8FHIT; human chromosomal translocation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Novel Translocation in Renal cancer from Chromosome 8 genes, useful for
                                                                                                                                                          Native human patched-2 polypeptide for treating disorders caused by Hedgehog protein signaling such as testicular cancer, and for screening
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.2%; Score 15; DB 5; Length 1447; 00.0%; Pred. No. 0.00016;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TRC8 related human patched protein SEQ ID No 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABJ10931 standard; protein; 1447 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1.2%;
100.0%; Pr.
0;
                                                                                                                                                                                                                       Example 1; Fig 3; 82pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    02-JUL-2001; 2001US-00898533.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               98US-0077723P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        465
   99US-00293505
                              98US-0081884P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     495 FNAATTQVLPFLALG 509
                                                                                                DA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity 100.
Matches 15; Conservative
                                                                                                Carpenter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FNAATTOVLPFLALG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gemmill RM, Drabkin HA;
                                                                 (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GEMMILL R M.
DRABKIN H A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2002-712395/77.
                                                                                                                             WPI; 2002-215260/27.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 1447 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US2002106656-A1.
                                                                                                                                                                            Hedgehog protei
cDNA libraries.
                                                                                                De Sauvage F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12-MAR-1998;
12-MAR-1999;
                                  15-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12-DEC-2002
   15-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     08-AUG-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABJ10931;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (GEMM/)
(DRAB/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABJ10931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
```

Epstein E;

ö

Gaps

ö

0; Indels

```
This sequence shows human patched (ptc) protein. Human patched gene has been mapped to human chromosome band 9q22.3 and lies between two controlling between two polymorphic makers DS196 and DS287. Mutations in the patched gene are characteristic in basal cell nevus syndrome (BCNS), an inherited disorder characteristic in basal cell nevus syndrome (BCNS), an inherited disorder with an increased risk of developmental disorders such as spina bifida and craniofacial abnormalities, basal cell carcinoma of the skin and brain tumours. The human and mouse ptc sequences show 86% homology. The transgenic mouse of the invention has a genome comprising a disruption of at least one allele of a patched locus, where the disruption predisposes the mouse to develop a proliferative disorder. The transgenic mouse is useful for studying patched functions and en regulation, for e.g. a series of small deletions and/or substitutions made in the patched gene, to determine the role of different exons in oncogenesis, signal transduction, etc; and for drug screening which is useful for treating transduction, etc; and for drug screening which is useful for treating function such as wound healing and aging
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New DNA sequence other than present in a chromosome encoding patched gene other than Drosophila patched gene, useful for preparing transgenic laboratory animals and to knock out patched protein in embryonic stem
                  iful for cancer drug screening, comprises disruption locus which predisposes the mouse to develop a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 1447;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; patched gene; PTC; hedgehog protein; gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1.2%; Score 15; DB 5; Le
100.0%; Pred. No. 0.00016;
live 0; Mismatches 0;
                                                                                     Disclosure; Col 85-92; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABU62275 standard; protein; 1447 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Johnson RL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human patched gene PTC product.
               Transgenic mouse, useful for of allele of patched locus wh proliferative disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              94US-00319745.
95US-00540406.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     495 FNAATTQVLPFLALG 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            97US-00954701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100.7
Matches 15, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    451 FNAATTOVLPFLALG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scott MP, Goodrich LV,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (SCOT/) SCOTT M P. (GOOD/) GOODRICH L V. (JOHN/) JOHNSON R L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2003-492065/46.
                                                                                                                                                                                                                                                                                                                                                                                                                                          Seguence 1447 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US2003032085-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      25-AUG-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20-OCT-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07-OCT-1994;
06-OCT-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      13-FEB-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABU62275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABU6227
ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
```

Gaps

```
CC The invention relates to a DNA sequence other than present in chromosome encoding a patched (ptc) gene other than Drosophila patched gene. A cell expressing the DNA sequence; where the patched protein, by growing the cell expressing the DNA sequence; where the patched protein is expressed and isolating the DNA sequence; where the patched protein is expressed and isolating the DNA sequence; where the patched protein. By candidate compounds for binding affinity to the patched protein, by combining the candidate protein with the cell expressing the DNA sequence of candidate compounds for binding affinity to the patched protein, by combining the candidate protein with the cell expressing the DNA sequence of transcriptional initiation region and transcriptional termination region functional in the cell, expressing the compound to the patched protein. The above cell is useful for producing all or portions of the patched compounds for agonist activity with the patched protein. The above cell is useful for producing all or portions of the patched compounds for research, diagnosis, binding of hedgehog protein for its isolation and purification and in gene therapy. The DNA sequence is also useful as primers for investigating other species and for isolating genes from various mammalian sources of interest, particularly for proparing transgenic laboratory animals and to knock out the PTC protein in the embryonic stem cells, as as to produce hosts with single functional patched gene. The present sequence represents the amino acid sequence of the human patched gene PTC product
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human, pain, neuronal tissue; gene therapy,
spinal segmental nerve injury; chronic constriction injury; CCI;
spared nerve injury; SNI; Chung.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1.2%; Score 15; DB 7; Length 1447;
100.0%; Pred. No. 0.00016;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Costigan M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human Protein NP_000255, SEQ ID NO 12363.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADD46678 standard; protein; 1447 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Befort K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-AUG-2002; 2002WO-US025765.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14-AUG-2001; 2001US-0312147P.
01-NOV-2001; 2001US-0346382P.
26-NOV-2001; 2001US-0333347P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 495 FNAATTOVLPFLALG 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.0
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (GEHO ) GEN HOSPITAL CORP. (FARB ) BAYER AG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (revised)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Woolf C, D'urso D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2003-268312/26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENBANK; NP_000255.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 1447 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO2003016475-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-DEC-2004
29-JAN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                27-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADD46678;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADD46678
          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
```

New composition comprising two or more isolated polypeptides, useful for

Disclosure, Page 8-10, 40pp, English

```
The invention discloses a composition comprising two or more isolated rat or human polynucleotides or a polynucleotide which represents a fragment, derivative or allelic variation of the nucleic acid sequence. Also claimed are a vector comprising the novel polynucleotide sequence which is differentially regulated in an animal subjected to pain and a kit to perform the method, an array, a method for identifying a nucleotide sequence which is differentially expression of the polynucleotide sequence that increases or decreases the expression of the polynucleotide sequence that is differentially expressed in neuronal tissue of a first animal compound that regulates the activity of one or more of the compound that regulates the activity of one or more of the compound that regulates the activity of one or more of the polynucleotides, a method for producing a pharmaceutical composition, a method for identifying a compound useful in treating continuty in an animal of one or more of the polypeptides or their antibodies. The polynucleotide or the compound that oplypeptides or their antibodies. The polynucleotide or the compound to pain and a pharmaceutical composition comprising the one or more polynestides is activity is useful for preparing a medicament for treating conditions. The polynucleotide or the compound that in train (e.g. apinal segmental nerve injury (SNI)) in an animal (e.g. gene therapy). The sequence presented is a human protein (described in Table 3 therapy). The sequence date for this patent did not form part of the printed continuity in the printed continuity in the printed continuity in the sequence and a pharmaceutical nerve injury (SNI) in an animal (e.g. gene therapy). The sequence date for this patent did not form part of the printed continuity in the specification, which is differentially expressed during pain.
preparing a medicament for treating pain in an animal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ftp.wipo.int/pub/published_pct_sequences.
                                                               Example 1; Page; 1017pp; English
   \mathbb{Z}_{X}
```

Query Match 1.2%; Score 15; DB 7; Length 1447; Best Local Similarity 100.0%; Pred. No. 0.00016; Matches 15; Conservative 0; Mismatches 0; Indels Sequence 1447 AA;

ö

Gaps . 0

> 451 FNAATTQVLPFLALG 465 495 FNAATTOVLPFLALG 509 ò 셤

Search completed: June 16, 2005, 08:04:39 Job time : 181 secs

	0.7 557 2	8888 8425 8425 8425 8425 8425 8425 8425	0.7 896 1 0.7 896 1 0.7 896 1	0.7 932 2 0.7 964 2	0.7 980 2	0.7 1370 2	0.7 1627 1	0.6 12 2	0.6 45 2	0.6	0.6 70 2	0.6 87 2 0.6 87 2 0.6 87 2	0.6 95 2	0.6 102 2	0.6 108 2	0.6 111 2	0.6	0.6 116 2	0.6 120 2	0.6 120 2	0.6 120 2	0.6	0.6 122 4	0.6 126 2 0.6 126 2	0.6 127 2	0.6 130 2	0.6 131 2	0.6 131 2 0.6 132 2	0.6 132 2 0.6 133 1	
30 31 33	3 3 4 4 5 7	2	4 4 4 4 4 5 11 G 6 4	4 4 4 4 4 12 0 1				 	5.C.	6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	699	65 65 67	0 0 0 1 0 0	27.2	74	6/ 76	. 8 6	80	81 82	83	85 85	800	2 O :	90 91	92	, ev e	96	97 98	99 100	a A
GenCore v (c) 1993 -	arch, using sw model	, 2005, 07:56:46; Search time 51 Seconds (without alignments) 2269.584 Million cell updates/sec	2269.584 Million cell 16A-2 LPRSYTPPARTSPAATSSGNLSSRGPGF	0.0	seqs, 96216763 residues		sfying chosen parameters: 283416	000000000	first 100 summaries	* * * *	* : .4	number of results predicted by chance to have a or equal to the score of the result being printed, analysis of the total score distribution.	SUMMARIES	ength DB ID Description	1182 2 113952 3	1442 2 T1851 Care Darched process	7.14 2 Ti6126 hypothetical F	10.0 2 12.7903 2.49 2 E95292	2 ACZ123 2 B81303	299 1 S06119 75 2 C71370	2 B81051 2 D81825	2 A30327	2 E/2609 2 T44456	2 G83812 2 D84590	2 E71139 2 T19538	100	2 G75357	2 T14362 2 T09120	2 F70792 hypothetic 2 C90704 Rhs core	2 G85554 Rhs core 2 T18765 hypotheti
Copyright	OM protein - protein se	Run on: June 16	Title: US-09-990-04 Perfect score: 1203 Sequence: 1 MTRSPPLREI	Scoring table: OLIGO Gapop 60	Searched: 283416	Word size : 0	Total number of hits sati	Minimum DB seq length: 0 Maximum DB seq length: 2	Post-processing: Listing	Database : PIR-79:* $1^{1} \cdot \overline{pir1}$ 2: pir2:	3: pir. 4: pir	Pred. No. is the numbe score greater than or and is derived by anal	æ	ery tch 1	94 7.	3 15 1.2	111	100	y 0	о с о с	60 6		0 80	888	8 8		0 80	88 0.0	88	88

hypothetical prote nif-specific regul cytochrome P450 CY islet cell antigen serine transducer methyl-accepting c vesicle transport aspartate kinase (penicillin binding hypothetical prote protein-tyrosine-p phypothetical prote protein-tyrosine-p protein-tyrothetical protein-tyrothetica hypothetical proteIg kappa chain V r
Ig kappa chain - h
Ig kappa chain - h
Ig kappa chain - h
Ig kappa chain - h
Ig kappa chain - h
Ig kappa chain - h
Ig kappa chain - h
Ig kappa chain - h
Ig kappa chain - h
Ig kappa chain - h
Ig kappa chain V-J
Ig kappa chain V-J
Ig kappa chain V-J
Ig kappa chain V-I

```
ALIGNMENTS
```

```
Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Species: Brachydanio rerio (zebra fish)
C;Species: Brachydanio rerio (zebra fish)
C;Date: 1.5-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
C;Accession: T18291
R;Concordet, J.P.; Lewis, K.E.; Moore, J.W.; Goodrich, L.V.; Johnson, R.L.; Scott, M.P.;
R;Concordet, J.P.; 2835-2846, 1998
A;Title: Spatial regulation of a zebrafish patched homologue reflects the roles of sonic
A;Reference number: Z18860; MUID:96379744; PMID:8787757
membrane protein ptch2 - mouse
Cispecies: Mus musculus (house mouse)
Cispecies: Mus musculus (house mouse)
Cipate: 20-8p-1999 #sequence_revision 20-Sep-1999 #text_change 09-Jul-2004
CiAccession: T13952
Fishotoyama, J.; Takabatake, T.; Takeshima, K.; Hui, C.
Nature Genet. 18, 104-106, 1998
A;Title: Ptch1, a second mouse Patched gene is co-expressed with Sonic hedgehog. A;Reference number: Z17830; MUID:98122566; PMID:9462734
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
A;Accession: T13952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            693 FGALLGLSLYGATLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHS 752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FGALLGLSLYGATLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHS 752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          transmembrane protein patched - mouse
C;Species: Mus musculus (house mouse)
C;Date: 22-Oct-1999 #sequence_revision 22-Oct-1999 #text_change 09-Jul-2004
C;Accession: T30172
R;Goodrich, L.V.; Johnson, R.L.; Milenkovic, L.; McMahon, J.A.; Scott, M.P.
Genes Dev. 10, 301-312, 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Residues: 1-1182 <MOT>
A;Cross-references: UNIPROT:035595; EMBL:AB010833; PIDN:BAA24691.1
A;Experimental source: strain BALB/CCrSlc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1182;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 1220;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ch 1.7%; Score 20; DB 2; Le
1 Similarity 100.0%; Pred. No. 6.1e-11;
20; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
7.8%; Score 94; DB 2; Le
Best Local Similarity 100.0%; Pred. No. 1.1e-85;
Matches 94; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         753 QRALFDLHQRFSSLKAVLPPPATQAPRTWLHYYR 786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         753 QRALFDLHQRFSSLKAVLPPPATQAPRTWLHYYR 786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Genetics:
A;Gene: ptch2
C;Supetfamily: Drosophila membrane protein patched
C;Keywords: transmembrane protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Gene: ptc1
C;Superfamily: Drosophila membrane protein patched
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 400 GGYLLMLAYACVTMLRWDCA 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGYLLMLAYACVTMLRWDCA 446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      patched protein - zebra fish
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 20; Conserva:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 2
T18291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

```
A; Title: Conservation of the hedgehog/patched signaling pathway from flies to mice: ind A; Reference number: Z20752; MUID:96176226; PMID:8595881
A; Accession: T30172
A; Accession: T30172
A; Accession: T30172
A; Molecule type: mRNA
A; Residues: 1-1434 <GOOD: Q61115; EMBL:U46155; NID:g1181884; PID:g1181885; PIDN:AAC98
A; Experimental source: clone M2, M9
C; Superfamily: Drosophila membrane protein patched
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A,Accession: T18538
A,Status: preliminary; translated from GB/EMBL/DDBJ
A,Molecule type: mRNA
A,Rosidues: 1-1442 cMAR>
A,Cross-references: UNIPROT:Q90693; EMBL:U40074; NID:G1335850; PID:G1335851; PIDN:AAC59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Residues: 1-714 <FAV>
A;Cross-references: UNIPROT:Q09540; EMBL:U23176; NID:g726404; PID:g726409; PIDN:AAC4671
A;Experimental source: strain Bristol N2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              patched protein - chicken
C;Species: Gallus gallus (chicken)
C;Species: Gallus gallus (chicken)
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
C;Accession: T18538
R;Marigo, V.; Scott, M.P.; Johnson, R.L.; Goodrich, L.V.; Tabin, C.
Development 122, 1225-1333, 198
B;A;Title: Conservation in hedgehog signaling: induction of a chicken patched homolog by
A;Reference number: Z18958; MUID:96205046; PMID:8620849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hypothetical protein F21H12.4 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 09-Jul-2004 C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 09-Jul-2004 C;Date: 20-Sep-1999 #text_change 09-Jul-2004 C;Date: 20-Sep-1999 #text_change 09-Jul-2004 S;Fravello, T. submitted to the EMBL Data Library, July 1995 A;Feference number: Z18464 A;Feference number: Z18464 A;Accession: T16126 A;Atcession: T16126 A;Atcession: T16126 A;Atcession: T10126 A;Atcession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.2%; Score 15; DB 2; Length 1442;
100.0%; Pred. No. 8e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1434;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 714;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1.2%; Score 15; DB 2; Le
100.0%; Pred. No. 7.9e-06;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Match 0.9%; Score 11; DB 2; Local Similarity 100.0%; Pred. No. 0.048; es 11; Conservative 0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Superfamily: Drosophila membrane protein patched
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Prec. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Genetics:
A;Gene: CESP:F21H12.4
A;Introns: 25/1; 334/2; 430/2; 543/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C; Keywords: transmembrane protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481 FNAATTQVLPFLALG 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  495 FNAATTQVLPFLALG 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.0
Matches 15, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1026 VGIGVEFTVHV 1036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 100.
Matches 15; Conservative
```

```
permease protein of branched-chain amino acid ABC transporter alr2538 [imported] - Nost C; Species: Nostoc sp. PCC 7120
C; Species: Nostoc sp. etcain PCC 7120 is a synonym of Anabaena sp. strain PCC 7120
C; Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 09-Jul-2004
C; Accession: AC2123
R; Kaneko, T.; Nakamura, Y.; Wolk, C.P.; Kuritz, T.; Sasamoto, S.; Watanabe, A.; Iriguch Nakazaki, N.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamada, M.; Yasuda, M.; Tabata, DNA Res. 8, 205-213, 2001
A; Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium An A; Reference number: AB1807; MUID:21595285; PMID:11759840
                                                                                                                                                                                                                                                                                                                                                                                                                     A, Accession: AC2123
A, Status: preliminary
A; Molecule type: DNA
A; Molecule type: DNA
A; Residues: 1-308 <KUR>
A; Cross-references: UNIPROT: Q8YU23; GB: BA000019; PIDN: BAB74237.1; PID: g17131630; GSPDB: A; Experimental source: strain PCC 7120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      probable membrane protein Cj1013c [imported] - Campylobacter jejuni (strain NCTC 11168) C;Species: Campylobacter jejuni (strain NCTC 11168) C;Species: Campylobacter jejuni C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004 C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004 R;Parkhill, J; Wren, BHJO, Mungall, K.; Ketley, J.M.; Churcher, C.; Basham, D.; Chilli C.W.; Quail, M.; Rajandream, M.A.; Rutherford, K.M.; VanVliet, A.; Whitehead, S.; Barre Nature 403, 665-668, 2000 A;Ritle: The genome sequence of the food-borne pathogen Campylobacter jejuni reveals hy A;Reference number: A81250; MUID:20150912; PMID:10688204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Status: preliminary
A;Molecule type: DNA
A;Molecule type: DNA
A;Cross-references: UNIPROT:Q9PNS7; GB:AL139077; GB:AL111168; NID:g6968444; PIDN:CAB732
A;Experimental source: serotype O2, strain NCTC 11168
C;Genetics:
A;Gene: Cj1013c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              membrane protein patched - fruit fly (Drosophila melanogaster)
C;Species: Drosophila melanogaster
C;Species: Drosophila melanogaster
C;Species: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004
C;Accession: S06119; A33468
R;Nakano, Y.; Guerrero, I.; Hidalgo, A.; Taylor, A.; Whittle, J.R.S.; Ingham, P.W.
Nature 341, 508-513, 1989
A;Title: A protein with several possible membrane-spanning domains encoded by the Droso A;Reference number: S06119; MUID:90015164; PMID:2797178
A;Reference number: S06119
A;Status: not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 1081;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 308;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0.7%; Score 9; DB 2;
100.0%; Pred. No. 2.5;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             O.7%; Score 9; DB 2;
Local Similarity 100.0%; Pred. No. 7.2;
Hes 9; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Genetics:
A;Gene: alr2538
C;Superfamily: leucine transport protein livH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            694 GALLGLSLY 702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GALLGLSLY 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              441 LGLCALLGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         915 LGLCALLGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local S
Matches 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A/Status: preliminary
A/Status: preliminary
A/Status: preliminary
A/Status: play
A/Residuation
A/Residuation
A/Esperimental source: strain 1021, megaplasmid pSymA
A/Experimental source: strain 1021, megaplasmid pSymA
A/Experimental source: strain 1021, megaplasmid pSymA
A/Brperimental source: strain 1021, megaplasmid pSymA
B/Galibert, F.; Finan, T.W.; Long, S.R.; Publer, A.; Abola, P.; Ampe, F.; Barloy-Hubler, pela, D.; Chain, P.; Cowie, A.; Davis, R.W.; Dreano, S.; Federspiel, N.A.; Fisher, R.F.;
L.; Hyman, R.W.; Jones, T.
B.; Hyman, R.W.; Jones, T.
B.; Kahn, M.L.; Kalman, S.; Keating, D.H.; Kiss, E.; Komp, C.; Lelaure, hebbault, P.; Vandenbol, M.; Vorholter, F.J.; Weidner, S.; Weils, D.H.; Wong, K.; Yeh, K.
A/Fitle: The composite genome of the legume symbiont Sinorhizobium meliloti.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Residues: 1-1405 -WIL>
A;Cross-references: UNIPROT: 009614; EMBL: 246812; PIDN: CAA86843.1; GSPDB: GN00020; CESP: ZK Experimental source: clone ZK675 C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Accession: E95222
R;Barnett, M.J.; Fisher, R.F.; Jones, T.; Komp, C.; Abola, A.P.; Barloy-Hubler, F.; Bows, T.; Kalman, S.; Keating, D.H.; Palm, C.; Peck, M.C.; Surzycki, R.; Wells, D.H.; Pelm, C.; Peck, M.C.; Surzycki, R.; Wells, D.H.; Yeh, K.C. Proc. Natl. Acad. Sci. U.S.A. 98, 9883-9888, 2001
A;Title: Nucleotide sequence and predicted functions of the entire Sinorhizobium melilot A;Reference number: A95262; MUID:21396509; PMID:11481432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           probable ABC transporter, permease SMa0469 [imported] - Sinorhizobium meliloti (strain C;Species: Sinorhizobium meliloti
C;Spate: 24-Aug-2001 #sequence_revision 24-Aug-2001 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                      Species: Caenorhabditis elegans
:Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Map position: 2
A;Introns: 31/1; 59/3; 100/3; 244/2; 485/1; 950/2; 1298/2; 1335/3
C;Superfamily: Drosophila membrane protein patched
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 1405;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 249;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                        hypothetical protein ZK675.1 - Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Status: preliminary; translated from GB/EMBL/DDBJ A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0.7%; Score 9; DB 2;
100.0%; Pred. No. 2.1;
live 0; Mismatches
                                                                                                                                                                                                                      C.Species: Caenorhabditis elegans
C.Date: 15-Oct-1999 #sequence_revision 15-Oct-1999
C.Accession: T27969
R.Sims, M.
Submitted to the EMBL Data Library, November 1994
A.Reference number: Z20448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Genome: plasmid
C;Superfamily: oligopeptide permease protein oppB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1242 VGIGVEFTVHV 1252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1026 VGIGVEFTVHV 1036
                                670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 0.7
Best Local Similarity 100.
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1066 AISTLLGLL 1074
67 AISTLLGLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Contents: annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Gene: CESP: ZK675.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Gene: SMa0469
                                099
                                ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
```

```
FFAALTVL 1095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1088 FFAALTVL 1095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 corticoliberin precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
Matches 8; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ||||||||
FFAALTVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FFAALTVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A, Gene: NMA1966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                D81825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R.; Gwin
T.; McDo
                                                                                                                                                                                                                             A;Status: preliminary; nucleic acid sequence not shown; not compared with conceptual tra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             F427-448/Domain: transmembrane #status predicted <TM02>
F456-503/Domain: transmembrane #status predicted <TM03>
F559-555/Domain: transmembrane #status predicted <TM04>
F559-565/Domain: transmembrane #status predicted <TM05>
F577-699/Domain: transmembrane #status predicted <TM05>
F1019-1047/Domain: transmembrane #status predicted <TM07>
F1019-1047/Domain: transmembrane #status predicted <TM08>
F1019-1086/Domain: transmembrane #status predicted <TM08>
F103-1121/Domain: transmembrane #status predicted <TM09>
F103-1121/Domain: transmembrane #status predicted <TM09>
F103-1121/Domain: transmembrane #status gredicted <TM00>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A,Cross-references: UNIPROT:083098, GB:AE001191, GB:AE000520, NID:g3322316, PIDN:AAC6506
A,Experimental source: strain Nichols
                                                                                                                                                                                                                                                                                                        'DVF',878,'Y',880-1299
                                                 R;Hooper, J.E.; Scott, M.P.
Cell 59, 751-765, 1989
A;Title: The Drosophila patched gene encodes a putative membrane protein required for A;Reference number: A33468; MUID:90058658; PMID:2582494
A;Accession: A33468
A;Residues: 1-1299 <NAK>
A;Cross-references: UNIPROT:P18502; GB:X17558; NID:g8389; PIDN:CAA35591.1; PID:g8390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the syphilis spirochete.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RiFraser, C.M.; Norris, S.J.; Weinstock, G.M.; White, O.; Sutton, G.G.; Dodson, rson, J.; Khalak, H.; Richardson, D.; Howell, J.K.; Chidambaram, M.; Utterback, they, L.; Weidman, J.; Smith, H.O.; Venter, J.C. Science 281, 375-388, 1998
A;Title: Complete genome sequence of Treponema pallidum, the syphilis spirochete A;Reference number: A71250; MUID:98332770; PMID:9665876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Status: preliminary; nucleic acid sequence not shown; translation not shown A;Molecule type: DNA A;Residues: 1-75 <COL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                hypothetical protein TP0059 - syphilis spirochete
C;Species: Treponema pallidum subsp. pallidum (syphilis spirochete)
C;Date: 24-Jul-1998 #sequence_revision 24-Jul-1998 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                 A,Molecule type: mRNA
A,Residues: 1-110,'R',112-273,'G',275-331,'R',333-635,'P',637-861,'
A,Cross-references: GB:M28418; GB:M28999; NID:9552097; PID:9552099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 1299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 75;
                                                                                                                                                                                                                                                                                                                                                                                                     A.Gene: FlyBase:ptc
A;Cross-references: FlyBase:FBgn0003892
A;Map position: 2 44D3-D4
C;Superfamily: Drosophila membrane protein patched
C;Keywords: glycoprotein; transmembrane protein
F;74-92/Domain: transmembrane #status predicted <fmooth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 1;
.8.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 9; DB 1; ; Pred. No. 8.4; 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%; Pred. w..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0.7%; Score B; D
100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0.7%; 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               207 TPLDCFWEG 215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           187 TPLDCFWEG 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                227 PFASLEGF 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 8; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C; Accession: C71370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Gene: TP0059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     유
```

L-lactate permease-related protein NMB1712 [imported] - Neisseria meningitidis (strain M C;Species: Neisseria meningitidis

RESULT 12

```
Cyaccesion: B81051
RyTettelin, H.; Saunders, N.J.; Heidelberg, J.; Jeffries, A.C.; Nelson, K.E.; Eisen, J. Hickey, E.K.; Haft, D.H.; Salzberg, S.L.; White, O.; Fleischmann, R.D.; Dougherty, B.A. ri, H.; Qin, H.; Vamathevan, J.; Gill, J.; Scarlato, V.; Masignani, V.; Pizza, M. Science 287, 1809-1815, 2000
A;Authors: Grandi, G.; Sun, L.; Smith, H.O.; Fraser, C.M.; Moxon, B.R.; Rappuoli, R.; Varitle: Complete genome sequence of Neisseria meningitidis serogroup B strain MG58.
A;Accession: B81051
A;Accession: B81051
A;Accession: DNA
A;Reference number: A81000; MUID:20178755; PMID:10710307
A;Accession: DNA
A;Residues: 1-99 <-TET>
A;Cross-references: UNIPROT:Q9JV69; GB:AE002521; GB:AE002098; NID:g7226962; PIDN:AAF420
A;Genetics:
A;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               probable integral membrane protein NWA1966 [imported] - Neisseria meningitidis (strain c'species: Neisseria meningitidis
C'species: Neisseria meningitidis
C'species: OS-May-2000 #sequence_revision 05-May-2000 #text_change 09-Jul-2004
C'Accession: D81825
R'Parkhill, J.; Achtman, M.; James, K.D.; Bentley, S.D.; Churcher, C.; Klee, S.R.; More, Holrow, S.; Jagels, K.; Leather, S.; Moule, S.; Mungall, K.; Quail, M.A.; Rajandream Nature 404, S02-506, 2000
A;Title: Complete DNA sequence of a serogroup A strain of Neisseria menigitidis Z2491.
A;Reference number: A81775; MUD:20222556; PMID:10761919
A;Accession: D81825
A;Gatus: preliminary
A;Molecule type: DNA
A;Residues: 1-99 cABA.
A;Acses-references: UNIRROT:09JT54; GB:AL162757; GB:AL157959; NID:g7380371; PIDN:CAB851
A;Experimental source: serogroup A, strain Z2491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Date: 07-Sep-1990 #sequence_revision 07-Sep-1990 #text_change 09-Jul-2004
C;Datession: A30327, A60860; J38106
R;Robinson, B.G; D'Angio Jr., L.A.; Pasieka, K.B.; Majzoub, J.A.
Mol. Cell. Endocrinol. 61, 175-180, 1989
A;Title: Preprocorticotropin releasing hormone: cDNA sequence and in vitro processing. A;Reference number: A30327; MUID:89137721; PMID:2783917
A;Status: not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 99;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0.7%; sco...
100.0%; Pred. No. ...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N'Alternate namés: corticotropin-releasing factor N'Contains: corticoliberin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0.7%; Score 8; DB 2
ilarity 100.0%; Pred. No. 9.7
Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: mRNA
A; Residues: 1-196 < ROB>
A; Cross-references: UNIPROT: P06850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.'
```

u

```
A,Accession: T44456
A;Status: preliminary; translated from GB/EWBL/DDBJ
A;Solecule type: DNA
A;Residues: 1-232 <NIS>
A;Residues: 1-232 <NIS>
A;Cross-references: UNTROT: 050183; EMBL: AF012537; NID: 92668593; PIDN: AAC71072.1; PID: 9
A;Cross-references: utrain PAOJ
B;Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, M.J.; B adman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Larbig, K.; Lim Lory, S.; Olson, M.V.
Nature 406, 959-964, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A,Title: Complete genome sequence of Pseudomonas aeruginosa PA01, an opportunistic path
A;Reference number: A82950; WUID:20437337; PMID:10984043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GB:AE004091; NID:g9946783; PIDN:AAG04279.1; GSPDB:GN00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      chitin-binding protein BH1303 [imported] - Bacillus halodurans (strain C-125)
C;Species: Bacillus halodurans
C;Species: Date: Ol-Dec-2000 #sequence_revision 01-Dec-2000 #text_change 09-Jul-2004
C;Accession: G83812
R;Takani, H.; Nakasone, K.; Takaki, Y.; Maeno, G.; Sasaki, R.; Masui, N.; Fuji, F.; Hir Nucleic Acids Res. 28, 4317-4331, 2000
A;Title: Complete genome sequence of the alkaliphilic bacterium Bacillus halodurans and A;Reference number: A83650; MUID:20512582; PMID:11058132
A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Molecule type: DNA,
A;Residues: 1-262 <srp.
A;Cross-references: UNIPROT:Q9KDB1; GB:AP001511; GB:BA000004; NID:g10173727; PIDN:BAB05
A;Experimental source: strain C-125
R;Nishijyo, T.; Park, S.M.; Lu, C.D.; Itoh, Y.; Abdelal, A.T.
d. Bacteriol. 180, 5559-5566, 1998
A;Title: Molecular characterization and regulation of an operon encoding a system for A;Reference number: 222777; MUID:99008987; PMID:9791103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              probable prohibitin [imported] - Arabidopsis thaliana (Species: Arabidopsis thaliana (mouse-ear cress) (Species: Arabidopsis thaliana (mouse-ear cress) (Species: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 09-Jul-2004 (Species: 034590 (Species: Days) (Species: Days) (Species: Days) (Species: Days) (Species: Change Object (Species: Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control of Control
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 232;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Gene: BH1303
C;Superfamily: Serratia marcescens 21K chitin-binding protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 262;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0.7%; Score 8; DB 2
100.0%; Pred. No. 20;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.7%; Score 8; DB 2
100.0%; Pred. No. 22;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Gene: aotM; PA0890
C;Superfamily: histidine permease protein M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A, Experimental source: strain PAO1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Cross-references: GB: AE004523;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 100.
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 0.7
Best Local Similarity 100.
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1071 LGLLMLAG 1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ILAGSLKA 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25 ILAGSLKA 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LGLLMLAG 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A, Accession: G83534
A, Status: preliminary
A, Molecule type: DNA
A, Residues: 1-232 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                         A; Molecule type: protein
A; Mesidues: 154-168, X',170-186 <SAS>
A; Residues: 154-168, X',170-186 <SAS>
B; Shibahas S.; Morimoto, Y.; Furutani, Y.; Notake, M.; Takahashi, H.; Shimizu, S.; Hor EMBO J. 2, 775-779, 1983
A; Title: Isolation and Sequence analysis of the human corticotropin-releasing factor pre A; Reference number: 138106; MUID:84057755; PMID:6605851
A; Recession: 138106
A; Status: preliminary; translated from GB/EMBL/DDBJ
A; Molecule type: DNA
A; Molecule type: DNA
A; Residues: 1-196 <RES>
A; Cross-references: EMBL:V00571; NID:g35355; PIDN:CAA23834.1; PID:g35356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Residues: I-211 cKAW>
A;Cross-references: UNIPROT:Q9YCB7; DDBJ:AP000061; NID:g5104821; PIDN:BAA80331.1; PID:d1
A;Experimental source: strain K1
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aerug
    Tempst, P.; Liotta, A.S.; Margioris, A.N.; Hood, L.E.; Kent, S.B.H.; Sato,
                                     J. Clin. Endocrinol. Metab. 67, 768-773, 1988
A, Title: Isolation and characterization of a corticotropin-releasing hormone-like peptic A, Reference number: A60860; MUID:88331316; PMID:3262120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Aforose-references: GDB:119804; OMIM:122560
A;Map position: 8q13-8q13
C;Superfamily: corticoliberin-endorpholiberin; diuretic hormone homology
C;Superfamily: corticoliberin-endorpholiberin; hypothalamus; placenta
C;Keywords: amidated carboxyl end; hormone; hypothalamus; placenta
F;1-24/Domain: signal sequence #status predicted <SIG>
F;25-196/Product: procorticoliberin #status predicted <CIN>
F;154-194/Product: corticoliberin #status predicted <CIN>
F;154-193/Domain: diuretic hormone homology <br/>
F;154-193/Domain: diuretic hormone homology <br/>
CHIA-194/Modified site: amidated carboxyl end (Ile) (amide in mature form from following g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       - Pseudomonas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N'Alternate names: membrane protein
C'Species: Pseudomnas aeruginosa
C'Date: 21-Jan-2000 Hasgernece_revision 21-Jan-2000 #text_change 09-Jul-2004
C'Accession: T44456; G83534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       arginine/ornithine transport system permease protein aotM [imported]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ·;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0.7%; Score 8; DB 2; Length 196; 100.0%; Pred. No. 17; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 211;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hypothetical protein APE1339 - Aeropyrum pernix (strain K1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.7%; Score 8; DB 2;
100.0%; Pred. No. 18;
cive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 0.7
Best Local Similarity 100.
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 0.7
Best Local Similarity 100.
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             428 AGVLLVAL 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 432 LVALAVAS 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13 LVALAVAS 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGVLLVAL 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Accession: E72609
A; Status: preliminary
A; Molecule type: DNA
                                                                                                                                                               A; Accession: A60860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Gene: GDB: CRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Gene: APE1339
```

ઠ 셤

ô

ö

ò g

```
hypothetical protein APB1184 - Aeropyrum pernix (strain K1)
C;Species: Aeropyrum pernix
C;Species: Aeropyrum pernix
C;Species: Aeropyrum pernix
C;Species: Aeropyrum pernix
C;Species: Aeropyrum pernix
C;Accession: D7289
E;Kawarabayasi, Y.; Hino, Y.; Horikawa, H.; Yamazaki, S.; Haikawa, Y.; Jin-no, K.; Taka and, H.; Takamiya, M.; Masuda, S.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Jin-no, K.; Taka A;Hie: Complete genome sequence of an aerobic hyper-thermophilic Crenarchaeon, Aeropy A;Title: Complete genome sequence of an aerobic hyper-thermophilic Crenarchaeon, Aeropy A;Accession: D7289
A;Accession: D7289
A;Accession: D7289
A;Molecule: T937 cKAW>A;Molecule: T937 cKAW>A;Molecule: T937 cKAW>A;Molecule: T937 cKAW>A;Molecule: T937 cKAW>A;Molecule: T937 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cossion: T938 cKAW>A;Cos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  hypothetical protein alr0838 [imported] - Nostoc sp. (strain PCC 7120)
hypothetical protein alr0838 [imported] - Nostoc sp. (strain PCC 7120
A;Note: Nostoc sp. strain PCC 7120
C;Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 09-Jul-2004
C;Accession: AD1911
R;Kaneko, T.; Nakamura, Y.; Wolk, C.P.; Kuritz, T.; Sasamoto, S.; Watanabe, A.; Irriguch Nakazaki, N.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamada, M.; Yasuda, M.; Tabata, DNA Res. 8, 205-213, 2001
A;Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium An A;Reference number: AB1807; MOID:21595285; PMID:11759840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A/Status: preliminary
A/Status: preliminary
A/Status: preliminary
A/Molecule type: DANA
A/Residues: 1-377 <ANA
A/Residues: 1-377 <ANA
A/FORDS-references: UNIPROT:Q8YYL0; GB:BA000019; PIDN:BAB72795.1; PID:g17130183; GSPDB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                A;Cross-references: EMBL:283113; PIDN:CAB05549.1; GSPDB:GN00023; CESP:K08H10.8
A;Experimental source: clone K08H10
C;Genetics:
A;Genetics:
A;Genetics:
A;Map posttion: 5
A;Introns: 36/2; 103/3; 167/1; 253/1
C;Superfamily: Arabidopsis thaliana hypothetical protein F2K15.180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0.7%; Score 8; DB 2; Length 357; ilarity 100.0%; Pred. No. 29; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 377;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                              Length 340;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C; Superfamily: probable glycosyl transferase MTH172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 0.7%; Score 8; DB 2; Best Local Similarity 100.0%; Pred. No. 30; Matches 8; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                      Query Match 0.7%; Score 8; DB 2; Best Local Similarity 100.0%; Pred. No. 28; Matches 8; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1189 SSGNLSSR 1196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          147 SSGNLSSR 154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   336 PALRAFSL 343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              522 PALRAFSL 529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
nes 8; Conserva
                            A; Residues: 1-340 <WI2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C,Genetics:
A,Gene: alr0838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Gene: APE1184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C, Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hypochetical protein PH0328 - Pyrococcus horikoshii
C;Species: Pyrococcus horikoshii
C;Species: Pyrococcus horikoshii
C;Species: Pyrococcus horikoshii
C;Species: 14-Aug-1998 #sequence_revision 14-Aug-1998 #text_change 09-Jul-2004
C;Accession: E71139
R;Kawarabayasi, Y.; Sawada, M.; Horikawa, Y.; Hino, Y.; Yamazaki, J.; Kamanoto, S.; Sekin
M.; Ohfuku, Y.; Punahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki, J.; Kushida, N.; Oguchi
DNA Res. S; S5-76, 1998
A;Title: Complete sequence and gene organization of the genome of a hyper-thermophilic a
A;Recession: E71139
A;Accession: E71139
A;Accession: E71139
A;Retus: preliminary; nucleic acid sequence not shown; translation not shown
A;Residues: 1-320 <Akw>
A;Residues: 1-320 <Akw>
A;Residues: 1-320 <Akw>
A;Coss-references: UNIPROT:OS8066; GB:AP000002; NID:g3236129; PIDN:BAA29402.1; PID:g325
A;Rocession replaces an interim accession for a sequence replaced by GenBank
C;Genetics:
A;Gene: PH0328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C; Species: Caenorhabditis elegans
C; Species: Caenorhabditis elegans
C; Species: T5-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
C; Accession: T19538; T23513
R; Gardner, A.
Submitted to the EWBL Data Library, October 1996
A; Reference number: Z19138
A; Accession: T19538
A; Status: Preliminary; translated from GB/EMBL/DDBJ
A; Molecule type: DNA
A; Residues: 1-340 <WIL>
A; Residues: 1-340 <WIL>
A; Cross-references: UNIPROT:017606; EMBL: Z81042; PIDN: CAB02797.1; GSPDB: GN00023; CESP: KG
A; Experimental source: clone C27H6
                                                                                                                                                                               A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-286 <5770>
A;Cross-references: UNIPROT:Q9SIL6; GB:AE002093; NID:g4586035; PIDN:AAD25653.1; GSPDB:GN
Nature 402, 761-768, 1999
A;Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana.
A;Reference number: A84420; MUID:20083487; PMID:10617197
A;Accession: D84590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 286;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 320;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                              A;Gene: At2g20530
A;Map position: 2
C;Superfamily: erythrocyte band 7 integral membrane protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Gardner, A.

submitted to the EMBL Data Library, November 1996

A;Reference number: 219750

A;Accession: T23513

A;Status: preliminary; translated from GB/EMBL/DDBJ

A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 0.7%; Score 8; DB 2;
Best Local Similarity 100.0%; Pred. No. 26;
Matches 8; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 0.7%; Score 8; DB 2; Best Local Similarity 100.0%; Pred. No. 24; Matches 8; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    698 GLSLYGAT 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         228 FASLEGFR 235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              144 FASLEGFR 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24 GLSLYGAT 31
                                                                                                                                                                                                                                                                                                                                                  C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
```

셤

ò

```
Riches, S.T.; Brosch, R.; Parkhill, J.; Garnier, T.; Churcher, C.; Harris, D.; Gordon, S.Chonor, R.; Davies, R.; Devlin, K.; Feltwell, T.; Gentles, S.; Hamlin, N.; Holroyd, S. Rajandream, M.A.; Rogers, J.; Rutter, S.; Seeger, K.; Skelton, S.; Squares, S. Nature 393, 537-544, 1998

A.Authors: Squres, R.; Sulston, J.E.; Taylor, K.; Whitehead, S.; Barrell, B.G. A;Title: Deciphering the biology of Mycobacterium tuberculosis from the complete genome A;Reference number: A70500; MUID:98295987; PMID:9634230

A;Reference preliminary; nucleic acid sequence not shown; translation not shown A;Mesidues: 1-440 <COL>
A;Residues: 1-440 <COL>
A;Residues: 1-440 <COL>
A;Experimental source: strain H37Rv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Species: Escherichia coli
C;Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 09-Jul-2004
C;Accession: C90704
R;Hayashi, T.; Makino, K.; Ohnishi, M.; Kurokawa, K.; Ishii, K.; Yokoyama, K.; Han, C.G
gasawara, N.; Yasunaga, T.; Kuhara, S.; Shiba, T.; Hattori, M.; Shinagawa, H.
A;Title: Complete genome sequence of enterohemorrhagic Escherichia coli O157:H7 and gen.
A;Reference number: A99629; MUID:21156231; PMID:11258796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Accession: C90704
A;Status: preliminary
A;Molecule type: DNA
A;Molecule type: DNA
A;Rossiques: 1-444 cHX/>
A;Cross-references: UNIPROT:Q8XCR7; GB:BA000007; PIDN:BAB34026.1; PID:g13360061; GSPDB:A;Experimental source: strain 0157:H7, substrain RIMD 0509952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rhs core protein [imported] - Escherichia coli (strain 0157:H7, substrain RIMD 0509952)
C;Species: Spinacia oleracea (spinach)
C;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 09-Jul-2004
C;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 09-Jul-2004
C;Accession: Tobles
Submitted to the EMBL Data Library, January 1998
A;Pescription: Molecular characterization of the spinach G-box binding protein family.
A;Reference number: Z16572
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession: T09120
A;Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Gene: bZIP
C;Superfamily: fava bean G-box-binding protein; fos/jun DNA-binding domain homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hypothetical protein Rv3693 - Mycobacterium tuberculosis (strain H37RV)
C;Species: Mycobacterium tuberculosis
C;Date: 17-Jul-1998 #sequence_revision 17-Jul-1998 #text_change 09-Jul-2004
C;Accession: F70792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 422;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 440;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 0.7%; Score 8; DB 2; Best Local Similarity 100.0%; Pred. No. 33; Matches 8; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0.7%; Score 8; DB 2;
100.0%; Pred. No. 34;
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Cross-references: UNIPROT: 049936; EMBL: AJ223624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     208 KAVLPPPA 215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       767 KAVLPPPA 774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        431 LLVALAVA 438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ||||||||||
LLVALAVA 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Gene: Rv3693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                           C,Accession: G73357
R;White, O.; Eisen, J.A.; Heidelberg, J.F.; Hickey, E.K.; Peterson, J.D.; Dodson, R.J.;
M.; Shen, M.; Vamathevan, J.J.; Lam, P.; McDonald, L.; Utterback, T.; Zalewski, C.; Ma
S.; Smith, H.O.; Venter, J.C.; Fraser, C.M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          glutamate synthase (ferredoxin) (EC 1.4.7.1) - red alga (Cyanidium caldarium) chloroplas N;Alternate names: glutamine 2-oxoglutarate aminotransferase; GOGAT enzyme glsF C;Species: chloroplast Cyanidium caldarium C,Species: chloroplast Cyanidium caldarium C;Species: chloroplast Cyanidium caldarium C;Abate: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 12-Jul-2004 C;Accession: T14362 R;Valentin, K.U.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            submitted to the EMBL Data Library, March 1996
A;Description: Ferredoxin GOGAT is plastid-encoded in a unicellular rhodophyte, Cyanidiu
A;Reference number: Z18012
A;Accession: T14362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: UNIPROT:Q9RTK2; GB:AE002017; GB:AE000513; NID:g6459527; PIDN:AAF1131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          L-glutamate and oxidized ferredoxin to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Title: Genome sequence of the radioresistant bacterium Deinococcus radiodurans R1. A;Reference number: A75250; MUD:20036896; PMID:10567266 A;Accession: G75357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                          C;Species: Deinococcus radiodurans
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                                                                                               diaminopimelate decarboxylase - Deinococcus radiodurans (strain R1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 388;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 379;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-388 <VAL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Description: catalyzes reversible conversion of C; Superfamily: glutamate synthase, large subunit C; Keywords: chloroplast; oxidoreductase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 0.7%; Score 8; DB 2; Best Local Similarity 100.0%; Pred. No. 31; Matches 8; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0.7%; Score 8; DB 2 ilarity 100.0%; Pred. No. 30; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Cross-references: EMBL: Z70297; NID: g1240002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C, Superfamily: diaminopimelate decarboxylase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 25
T09120
basic leucine zipper protein - spinach
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A, Experimental source: strain R1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1022 LVASVGIG 1029
                     110 YTSOMLIQ 117
                                                                                                   199 YTSQMLIQ 206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         308 GELLRAEA 315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GELLRAEA 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LVASVGIG 33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A Status: preliminary
A Molecule type: DNA
A Residues: 1-379 <WHI>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 8; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Genome: chloroplast
A;Note: glsF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Map position: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Genetics:
```

q

8

ઠ g

```
Search completed: June 16, 2005, 08:08:54 Job time : 56 secs
                                                                                                                                                                                                                                                                                                                                                             A; Gene: APE1728
                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Status: preliminary
A;Molecule type: DNA
A;Molecule type: DNA
A;Cross-references: UNIPROT:Q8XCR7; GB:AE005174; NID:g12513445; PIDN:AAG54899.1; GSPDB:G
A;Experimental source: strain O157:H7, substrain EDL933
A;Gene: Z0702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A,Status: preliminary; translated from GB/EMBL/DDBJ
A,Molecule type: DNA
A,Residues: 1-454 <MIL.>
A,FResidues: 1-454 <MIL.>
A,Cross-references: UNIPROT:Q17511; EMBL:Z49907; PIDN:CAA90086.1; GSPDB:GN00020; CESP:BG
A,Experimental source: clone B0491
                                                                                                                                                                                                                                                                                                                                Ris core protein (similarity) - Escherichia coli (strain O157:H7, substrain EDL933)
C;Species: Escherichia coli
C;Species: Escherichia coli
C;Species: Escherichia coli
C;Species: Escherichia coli
C;Accession: G85554
R;Perna, N.T.; Plunkett III, G.; Burland, V.; Mau, B.; Glasner, J.D.; Rose, D.J.; Mayhew Iller, L.; Grotbeck, E.J.; Davis, N.W.; Lim, A.; Dimalanta, E.; Potamousis, K.; Apodaca, Nature 409, 529-533, 2001
A;Title: Genome sequence of enterohemorrhagic Escherichia coli O157:H7.
A;Reference number: A85480; MUID:21074935; PMID:11206551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
0
                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hypothetical protein B0491.4 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Accession: T18765
R;Sulston, J.
submitted to the EMBL Data Library, June 1995
A;Reference number: Z19019
                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Genetics:
A;Gene: CESP:B0491.4
A;Map position: 2
A;Introns: 34/1; 71/3; 98/3; 136/2; 176/2; 286/3; 332/1; 374/3; 419/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ..
0
                                                                                                                        ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0.7%; Score 8; DB 2; Length 444;
100.0%; Pred. No. 34;
vative 0; Mismatches 0; Indels
                                                                         Length 444;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 454;
                                                                                                                      0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  D72555
hypothetical protein APE1728 - Aeropyrum pernix (strain K1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 0.7%; Score 8; DB 2; Best Local Similarity 100.0%; Pred. No. 35; Matches 8; Conservative 0; Mismatches
                                                                    Query Match 0.7%; Score 8; DB 2; Best Local Similarity 100.0%; Pred. No. 34; Matches 8; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                              290 DPLGLAAS 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             867 DPLGLAAS 874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            290 DPLGLAAS 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           690 LVLFGALL 697
                                                                                                                                                                    867 DPLGLAAS 874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Thes 8; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 LVLFGALL 11
C;Genetics:
A;Gene: ECs0603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 30
                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
```

```
A;Cross-references: UNIPROT:Q9YB69; DDBJ:AP000062; NID:g5105244; PIDN:BAA80729.1; PID:d
A;Experimental source: strain K1
C;Genetics:
                                                                                                                                                                                                          ö
                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                          ;
0
                                                                                                                                                                                     Length 517;
                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                     0.7%; Score 8; DB 2;
100.0%; Pred. No. 39;
tive 0; Mismatches
                                                                                                                                                                                               Best Local Similarity 100.
Matches 8, Conservative
                                                                                                                                                                                                                                427 LAGVLLVA 434
                                                                                                                                                                                                                                                 12 LAGVLLVA 19
```

Q823d7 chlamydophi Q930f3 rhizobium m Q8yu23 anabaena sp Q85dx0 gonorynchus Q6y4v4 xenopus lae Q76082 neurospora Q8vyk9 arabidopsis Q63i60 burkholderi Q9vi84 drosophila	Oppis7 campylobact Orgay4 anopheles G P18502 drosophila O9xyp5 junonia coe Q6f598 pyrococcus Q6crb4 kluyveromyc O9p8e2 kluyveromyc O9plb8 homo sapien O8jp02 cercooithec	Q87502 cercopithed Q8750 cryza sativ Q7xh79 cryza sativ Q7xh79 cryza sativ Q8u1x2 pyrococcus Q9154 neisseria m Q91969 neisseria m Q91969 neisseria m P02704 equus cabal P02705 equus cabal Q7v5z5 prochloroco Q8bnn7 mus musculu Q807a2 xanthomonas Q68648 acromonas Q68648 acromonas Q68648 musculu Q95cwf0 mus musculu Q75et0 ashbya goss		Offigure Defended Defended Office Off
0.7 249 2 0 0.7 308 2 0 0.7 348 2 0 0.7 348 2 0 0.7 4408 2 0 0.7 4435 2 0 0.7 4435 2 0 0.7 4339 2 2 0 0.7 4339 2 0 0.7 433	0.7 1081 2 0.7 1157 2 0.7 1318 2 0.7 1711 2 0.7 64 2 0.7 64 2 0.7 64 2 0.7 64 2 0.7 64 2 0.7 64 2 0.7 8 1	0.77 0.77 0.77 0.77 0.77 0.77 0.77 0.77	0.7 196 2 0.7 191 2 0.7 191 2 0.7 191 2 0.7 204 1 0.7 211 2 0.7 213 2	8 0.7 227 2 06MP0 8 0.7 227 2 050183 8 0.7 224 2 050183 8 0.7 241 2 08715 8 0.7 247 2 0786M4 8 0.7 247 2 0786M4 8 0.7 251 2 0787C3 8 0.7 262 2 09RDB1 8 0.7 267 2 0847J9 8 0.7 268 2 09RDB1 8 0.7 278 2 072C84 9 0.7 286 2 09STG 8 0.7 286 2 09STG 8 0.7 286 2 09STG 8 0.7 286 2 09STG 8 0.7 286 2 09STG 8 0.7 286 2 09STG 8 0.7 286 2 09STG 8 0.7 286 2 09STG 8 0.7 286 2 09STG 8 0.7 286 2 09STG 8 0.7 286 2 09STG 8 0.7 286 2 09STG 8 0.7 331 2 09STG 8 0.7 331 2 09STG 8 0.7 331 2 09TC85 8 0.7 331 2 09TC85
	14 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 6 5 6 6 6 6	5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	66 66 67 77 77 73	
5.1.6 Compugen Ltd. arch time 194 Seconds	419 SPA	s: 1612378	results predicted by chance to have a to the score of the result being printed, of the total score distribution. SUMMARIES ID Description	mus learning gall, brad gall, brad gall, brad gall, brad gall, brad gall, brad gall, brad gall, brad komo komo komo komo komo komo komo kom
GenCore version pyright (c) 1993 - 2005 search, using sw model 16, 2005, 07:45:06 ; Sea	3175 S-09-990-046A-2 203 MTRSPPLRELPPSYTPPART LIGO apop 60.0 , Gapext 60.0 612378 segs, 512079187 residue	1270 Seys, SIZO75180 18 satisfying chosen p 15th: 200000000 1sting first 100 summa 11prot_03:* 11prot_sprot:* 11prot_trembl:*	i number of an or equal by analysis Length DB	91.6 1203 1 PTCZ_HUMAN 7.8 1182 1 PTCZ_HUMAN 7.8 1182 1 PTCZ_MOUSE 1.7 1220 1 PTCZ_MOUSE 1.7 1413 2 090RF3 1.6 255 1 PTCZ_CXNPY 1.2 234 2 061R55 1.2 234 2 061R63 1.2 1239 2 090RF4 1.2 1239 2 090RF4 1.2 1243 2 090RF4 1.2 1418 2 090RF4 1.2 1434 2 060RP9 1.2 1434 2 060RP9 1.3 1434 2 060RP9 1.0 1437 2 090RF4 1.1 183 2 060RP3 0.9 257 1 PTCL_HUMAN 1.1 183 2 060RP3 0.9 257 1 PTCL_CXPY 0.9 1405 1 PTCL_CXPY 0.9 14
Co. OM protein - protein Run on: June	Title: Perfect score: 11 Sequence: 1 Scoring table: 03 Searched: 11	e : mber of h DB seq le DB seq le cessing: : 1	Pred. N score g and is Scor	1002 1102 1102 1103 1104 1105

N

99

720 720 780 780 900

960

```
1021 IIVASVGIGVEFTVHVALGFLFTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LRWGASSSLPQSFARVTISMTVAIHPPPLPGAYIHPAPDEPPWSPAATSSGNLSSRGPGP 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE
                                                           661 LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALJGLSLYGATLVQDGLALTDVVPRG
                                                                                                                                                                                                                                                                                                                                             TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                                                                                          WLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                                                                                           TRKLVDREGLI PPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGENLRI P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PAQPLEFAQFPFLLRGLQKTADFVBAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ILVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH
                                                                                                                             AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                             QAFTHCEASSOHVVTILPPOAHLVPPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS
                                                                                                                                                                                                                                                            LPCARWNLAHFARYOFAPLLLOSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG
                                                                                                                                                                                                                                                                                                                          TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLAMMTVELFGIMGFLGIKLSAIPVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. (ISOFORM 1).
MEDLINE=99030620; PubMed=9811851; DOI=10.1073/pnas.95.23.13630;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PTC2 HUMAN STANDARD; PRT; 1203 AA. 09Y6C5; 095341; 095856; 16-OCT-2001 (Rel. 40, Last sequence update) 05-UUL-2004 (Rel. 40, Last annotation update) Patched protein homolog 2 (PTC2). Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1201
                                                              481
                                                                                              481
                                                                                                                              541
                                                                                                                                                               541
                                                                                                                                                                                             601
                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                          781
                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                           841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1081
 121
                              421
                                                                                                                                                                                                                                                             199
                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                      a
                                                                                                                                                                                           ò
                                                                                                                                                                                                                        유
                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                         요
                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  원
                    a
                                                    ઠે
                                                                                                                              à
                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 AQVGQAYVGRPCLHPDDLHCPPSAPNHSRQAPNVAHELSGGCHGFSHKFWHWQEELLLG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                     NEBLITAXID=9908;

NELLIAXID=9908;

NELLIAXID=9908;

NEDLINE=22887996; PubMed=12975309; DOI=10.1101/gr.1293003;

NEDLINE=22887996; PubMed=12975309; DOI=10.1101/gr.1293003;

Clark HF.; Gurney A.L., Abaya E., Baker K., Baldwin D., Brush J.,

Clark HF.; Gurney A.L., Abaya E., Baker K., Baldwin D., Brush J.,

A Clark HF.; Gurney A.L., Abaya E., Baker K., Baldwin D., Brush J.,

A Eaton D., Foster J., Grimaldi C., Gu Q., Hass P.E., Heldens S.,

A Lewis L., Liao D., Mark M., Kobbie E., Sanchez C., Schoenfeld J.,

Lewis L., Liao D., Mark M., Sobbie E., Sanchez C., Schoenfeld J.,

Seshagiri S., Simmons L., Singh J., Smith V., Stinson J., Vagts A.,

Vandlen R., Watanabe C., Wieand D., Woods K., Xie M.H., Yansura D.,

XI S., Yu G., Yuan J., Zhang M., Zhang Z., Goddard A., Wood W.I.,

R. Yi S., Yu G., Yuan J., Zhang M., Zhang Z., Goddard A., Wood W.I.,

A Yi S., Yu G., Yuan J., Zhang M., Zhang Z., Goddard A., Wood W.I.,

R. Godowski P.;

R. The secreted protein discovery initiative (SPDI), a large-scale

R. The secreted protein discovery initiative (SPDI), a large-scale

R. The secreted protein discovery initiative (SPDI), a large-scale

R. Goodowski P.;

R. Shangis S., Shangis P., Shangis S., Fhedgehog receptor activity; IEA.

B. RILL: AY358555; ARQ8999.1; -

B. RILL: R. Shangis P. Fhedgehog receptor activity; IEA.

R. InterPro; IRR003392; Patched.

B. RILL: Pro; IRR003392; Patched.

B. RILL: Pro; IRR003392; Patched.

B. RILL: Pro; IRR004766; Patchedur recept.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GMARDPOGELLRAEALOSTFLLMSPROLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LGLLAFGALALGLRMAI I ETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                       Eukaryota; Metarona;
Karyota; Metarona; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 1211;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           50156; SSD; 1.
1211 AA; 131568 MW; 303D4FC55D39FB77 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                             Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; Score 1203; D
; Pred. No. 0;
0; Mismatches
                                                 PRT; 1211 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam, PF02460; Patched; I.
TIGRPAMS; TIGR00918; 2A060602; I.
PROSITE; PS50156; SSD; I.
SEQUENCE 1211 AA; 13156R MW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 1203; Conservative 0
                                                                            05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27,
                                               PRELIMINARY;
                                                                                                                                                             Homo sapiens (Human)
                                                                                                                                                                                                              NCBI_TaxID=9606;
                                                                                                                                               ORFNames=UNQ560;
                                                                                                                                Patched 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                26UX14;
                                             Q6UX14
                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  рp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
```

ന

```
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Isold=2; Sequence=VSP_004542; DISEASE: Defects in PTCH2 are a cause of medulloblastoma (MDB) DISEASE: Defects in PTCH2 are a cause of medulloblastoma (MDB) [MIM:155255]. MDB is a malignant, invasive embryonal tumor of the cerebellum with a preferential manifestation in children. Although the majority of medulloblastomas occur sporadically, some manifest within familial cancer syndromes such as Turcot syndrome and basal cell nevus syndrome (Gorlin syndrome).
DISEASE: Defects in PTCH2 are a cause of sporadic basal cell. carcinoma (BCC) [MIM:605462].
SIMILARITY: Belongs to the patched family.
SIMILARITY: Contains 1 sterol-sensing (SSD) domain.
                                                                                                                                                  MEDLINE=99135908; PubMed=993136; DOI=10.1093/hmg/8.2.291; Smyth I., Narang M.A., Evans T., Heimann C., Nakamura Y., Chenevix-Trench G., Pietsch T., Wicking C., Wainwright B.J.; Isolation and characterization of human patched 2 (PTCH2), a putative tumour suppressor gene in basal cell carcinoma and medulloblastoma on
                     Rosenthal A., de Sauvage F.J.;
"Characterization of two patched receptors for the vertebrate hedgehog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. (ISOFORM 1), AND VARIANTS GLN-346; LYS-493;

TYR-622; MET-988; MET-1019 AND MET-1121.

Rieder M.J., Livingston R.J., Daniels M.R., Chung M.-W.,

Miyamoto K.E., Nguyen C.P., Nguyen C.L., Robertson P.D.,

Schackwitz W.S., Sherwood J.K., Witrak L.A., Nickerson D.A.;

"NIEHS-SNPs, environmental genome project, NIEHS ES15478, Department
of Genome Sciences, Seattle, WA (UNL: http://egp.gs.washington.edul.";

Submitted (OCT-2003) to the EMBL/GenBank/DDBJ databases.

--- FUNCTION: May have a role in epidermal development. May act as a

receptor for Sonic hedgehog (SHH).

--- SUBCELLULAR LOCATION: Integral membrane protein.

--- ALTERNATIVE PRODUCTS:

EVENT. EMBLES STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STATEM STAT
Carpenter D., Stone D.M., Brush J., Ryan A., Armanini M., Frantz G.,
                                                                                                                                                                                                                                                                                                                                                                                                        Toftgard R.;
"PTGTH3, a novel human patched gene, undergoing alternative splicing and up-regulated in basal cell carcinomas.";
cancer Res. 59:787-792(1999).
                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A. (ISOFORM 2).
MEDLINE-99151521; Pubmed-10029063;
Zaphiropoulos P.G., Unden A.B., Rahnama F., Hollingsworth R.E.,
                                                                                                                                    SEQUENCE FROM N.A. (ISOFORM 1), AND INVOLVEMENT IN MDB AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GO; GO:0005887; C:integral to plasma membrane; TAS. GO; GO:0004888; F:transmembrane receptor activity; TAS. GO; GO:0008544; P:epidermal differentiation; TAS. GO; GO:0006461; P:protein complex assembly; TAS. GO; GO:0007481; P:spermatogenesis; TAS. InterPro; IPR003392; Patched.
                                                                                       Proc. Natl. Acad. Sci. U.S.A. 95:13630-13634(1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IsoId=Q9Y6C5-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                           Hum. Mol. Genet. 8:291-297(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL, AF091501, AAC79847.1; -.
EMBL, AF087651, AAD25953.1; -.
EMBL, AF19569, AAD17260.1; -.
EMBL, AY438664, AAR05447.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Genew; HGNC:9586; PTCH2.
                                                                                                                                                                                                                                                                           1p32.";
                                                               protein family.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MIM; 603673;
                                                                                                                                                                                                                                                                           chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Name=1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Name=2
```

```
LGLLAFGALALGLRMAIIETNLEQLWVEVGSRVSQELHYTKEKLGEEAAYTSQMLIQTAR 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                          WGASSSLPQSFARVTTSMTVAIHPPPLPGAYIHPAPDEPPW
SPAATSSGNLSSRGPGPATG -> PEEI (in isoform
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MTRSPPLRELPPSYTPPARTAAPQILAGSLKAPLWLRAYFQGLLFSLGCGIQRHCGKVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                       N-linked (GlcNAc. . .) (Potential)
N-linked (GlcNAc. . .) (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 1; Length 1203;
                Pfam; PF02460; Patched; I.
TIGRPAMs; TIGR00918; 2A060602; 1.
PROSITE; PS50156; SSD; 1.
Alternative splicing; Glycoprotein; Receptor; Transmembrane.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4FAB06999782C031 CRC64;
                                                                                                                                                   Sxtracellular (Potential).
                                                                                                                Extracellular (Potential)
                                                                                                                                                                                                                              Extracellular (Potential)
                                                                          Sxtracellular (Potential)
                                                                                                                                                                                         3xtracellular (Potential)
                                                                                                                                                                                                                                                                   Extracellular (Potential)
                                                                                                                                Cytoplasmic (Potential).
                                                                                                                                                                       Cytoplasmic (Potential).
                                                                                                                                                                                                           Cytoplasmic (Potential).
                                                                                                                                                                                                                                                 Cytoplasmic (Potential).
                                                       Cytoplasmic (Potential).
                                                                                             Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                     Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; -> Q.
/FTId=VAR_018935.
                                                                                                                                                                                                                                                                                                                                                                                            FTIG=VAR_018936.
                                                                                                                                                                                                                                                                                                                                                      FTIG=VSP_004542
                                                                                                                                                                                                                                                                                                                                                                                                                                 FTIG=VAR_018938
                                                                                                                                                                                                                                                                                                                                                                                                              FTId=VAR_018937
                                                                                                                                                                                                                                                                                                                                                                                                                                                   /FTId=VAR_018939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 1102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -> N (in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FTIG=VAR
                                                                                                                                                                                                                                          Potential
                                                                                                                          Potential
                                                                                                                                                              Potential
                                                                                                                                                                                                                       Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No.
                                                                                                                                           Potential
                                                                                                                                                                                 Potential
                                                                                                                                                                                                    Potential
InterPro; IPR004766; Patchedtm_recept.
InterPro; IPR000731; SSD_STM.
                                                                                                                                                                                                                                                            Potentia]
                                                                                                                                                                                                                                                                              Potentia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ٨
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      137 S ->
146 D ->
197 L ->
130543 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       91.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 1202; Conservative
                                                                                                     120
175
753
787
833
833
846
                                                                                                                                                                                                                                                                                                                                                                                   493
                                                                                                                                                                                                                                                                                                                                                                                                                        988
                                                                                                                                                                                                                                                                                                                                                                                                                                           1019
                                                                                                                                                                                                                                                                                                                                                                                                      622
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1203 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                 58
79
393
393
414
429
450
450
479
502
                                                                                                                                                                                                                                                 1085
                                                                                                                                                                                                                                                                                                                                                                                                                                           1019
                                                                                                                                                                                                                                                                                                                                                                 346
                                                                                                                                                                                                                                                                                                                                                                                                                       988
                                                                                                                                                                                                                                                                                                                                                                                                                                                              1121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
175
775
787
833
846
                                                                                                                                                                                                                                                                                               394
370
812
1143
                                                                                                                                                                                                                                                                                                                                                                                   493
                                                                                                                                                                                                                                                                                                                                                                                                     622
                                                       DOMAIN
TRANSMEM
       InterPro;
                                                                                                               DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                   DOMAIN
TRANSMEM
                                                                                                                                                                                        DOMAIN
TRANSMEM
                                                                                                                                                                                                                    TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                 DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CONFLICT
CONFLICT
CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19
                                                                                  TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CONFLICT
                                                                                                     FRANSMEM
                                                                                                                                           FRANSMEM
                                                                                                                                                                                 PRANSMEM
                                                                                                                                                                                                                                                                                                         CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                        FRANSMEM
                                                                                                                                                                                                                                                                           FRANSMEM
                                                                                                                                                                                                                                                                                                                           /ARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CONFLICT
                                                                                                                                                                                                                                                                                                                  CARBOHYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local
                                                                                                                                                                                                                                                                                                                                                                                  VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                    VARIANT
                                                                                                                                                                                                                                                                                                                                                                 /ARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                        VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                           VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                              VARIANT
                                                                                                                                                                                                                                                                                      DOMAIN
                                                                          DOMAIN
                                                                                             DOMAIN
                                                                                                                                                                      OMAIN
                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                    DOMAIN
```

용 δ g ò 셤 ò ò

8

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                           STRAIN=BALB/C; TISSUB=Neuroretina;
MEDLINE=97379366; PubMed=9237688; DOI=10.1016/S0014-5793(97)00645-5;
Takabatake T., Ogawa M., Takahashi T.C., Mizuno M., Okamoto M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   May act as
                                                                                                                                                                                            Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                 "Hedgehog and patched gene expression in adult ocular tissues.",
FEBS Lett. 410:485-489(1997).
-!- FUNCTION: May have a role in epidermal development. May act a
receptor for Sonic hedgehog (SHH).
-!- SUBCELLULAR LOCATION: Integral membrane protein.
-!- TISSUE SPECIFICITY: Expressed in epithelial cells of the
developing hair, tooth and whisker.
-!- DEVELOPMENTAL STABE: Detected in 8.5 to 17.5 dpc embryos.
-!- SIMILARITY: Belongs to the patched family.
-!- SIMILARITY: Contains 1 sterol-sensing (SSD) domain.
                                                                                                                                                                                                                                                                                                         with Sonic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Extracellular (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Potential.
Extracellular (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Extracellular (Potential)
Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cytoplasmic (Potential). Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                         Motoyama J., Takabatake T., Takeshima K., Hui C.-C.; "Ptch2, a second mouse Patched gene is co-expressed hedgehog.";
                                                                                   30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Patched protein homolog 2 (PTC2).
                                                                                Ŕ
                                                                                1182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; AB010833; BAA24691.1; -.
PIR; T13952; T13952.
MGD; MGI:1095405; Ptch2.
InterPro; IPR003332; Patched.
InterPro; IPR004766; Patchedtm_recept.
InterPro; IPR000731; SSD 5TM.
Pfam; PF02460; Patched; I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Transmembrane
                                                                                                                                                                                                                                                                                 MEDLINE=98122566; PubMed=9462734;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TIGRFAMS; TIGRO0918; 2A060602; 1. PROSITE; PS50156; SSD; 1.
                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE OF 196-446 FROM N.A.
                                                                                                                                                                                                                                                                                                                                      Nat. Genet. 18:104-106(1998)
                                                                                STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Receptor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               78
4414
4114
4218
4459
557
552
686
                                                                                                                                                                                 Mus musculus (Mouse)
                                                                                                                                                                                                                                                      FROM N.A.
           1203
                                                                                                                                                                                                                        NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          395
4415
4450
4450
502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Glycoprotein; R
DOMAIN
TRANSMEM 58
                                                                                                                                                                                                                                                                    TISSUE=Embryo;
                                                                                                                                                                                                                                                                                                                                                                                                                           Takeshima K.;
          ATG
                                                                                MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TRANSMEM
DOMAIN
           1201
                                                                                                                                                                                                                                                                                                                         hedgehog.
                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                   MOUSE
                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RRCFLLAVCILLVCTFLVCALLLLNPWTAGLIVLVLAMMTVELFGIMGFLGIKLSAIPVV 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PAQPLEFAQFPFILLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL 960
                                                                                                                                                                    360
                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                              009
                                                                                                                                                                                                                                                                                                                                                                                                                                                     099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           900
QEGENILTPEALGLHLQAALTASKVQVSLYGKSWDLNKICYKSGVPLIENGMIEWMIEKL 180
                        180
                                                      240
                                                                                                            300
                                                                                                                                     300
                                                                                                                                                                                              360
                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                          009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WLHYYRNWLQGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPPEWLHDKYDTTGENLRIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PAQPLEFAQFPFLLRGLQKTADFVEAIEGARAACAEAGQAGVHAYPSGSPFLFWEQYLGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1LVASVGIGVEFTVHVALGFLTTQGSRNLRAAHALEHTFAPVTDGAISTLLGLLMLAGSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TRKLVDREGLIPPELFYMGLTVWVSSDPLGLAASQANFYPPPFWLHDKYDTTGENLRIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FDFIVRYFFAALTVLTLLGLLHGLVLLPVLLSILGPPPEVIQMYKESPEILSPPAPQGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FDFIVRYFFAALTVLTLLGLLHGLVLLDVLLSILGPPPEVIQMYKESPEILSPPAPQGGG
                 181 FPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK
                                                                                                             AOVGOAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG
                                                                                                                             241 AQVGQAYVGRPCLHPDDLHCPPSAPNHHSRQAPNVAHELSGGCHGFSHKFMHWQEELLLG
                                                                                                                                                                    GMARDPOGELLRAEALOSTFLLMSPROLYEHFRGDYQTHDIGWSEEQASTVLQAWQRRFV
                                                                                                                                                                                    GWARDPOGELLRAEALOSTFLLMSPROLYEHFRGDYOTHDIGWSEEQASTVLOAWORRFV
                                                                                                                                                                                                                          QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                                                                                                                                                                                             QLAQEALPENASQQIHAFSSTTLDDILHAFSEVSAARVVGGYLLMLAYACVTMLRWDCAQ
                                                                                                                                                                                                                                                                                 SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE
                                                                                                                                                                                                                                                                                                SQGSVGLAGVLLVALAVASGLGLCALLGITFNAATTQVLPFLALGIGVDDVFLLAHAFTE
                                                                                                                                                                                                                                                                                                                                         481 ALPGTPLOERMGECLORTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                         ALPGTPLQERMGECLQRTGTSVVLTSINNMAAFLMAALVPIPALRAFSLQAAIVVGCTFV
                                                                                                                                                                                                                                                                                                                                                                                               AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                                                                                                                                                                                                               AVMLVFPAILSLDLRRRHCQRLDVLCCFSSPCSAQVIQILPQELGDGTVPVGIAHLTATV
                                                                                                                                                                                                                                                                                                                                                                                                                                                     QAFTHCEASSQHVVT1LPPQAHLVPPSDPLGSELFSPGGSTRDLLGQEEETRQKAACKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LPCARWNLAHFARYQFAPLLLQSHAKAIVLVLFGALLGLSLYGATLVQDGLALTDVVPRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TKEHAFLSAQLRYFSLYEVALVTQGGFDYAHSQRALFDLHQRFSSLKAVLPPPATQAPRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WLHYYRNWLOGIQAAFDQDWASGRITRHSYRNGSEDGALAYKLLIQTGDAQEPLDFSQLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LRWGASSSIPQSFARVITSMTVAIHPPPLPGAYIHPAPDEPPWSPAATSSGNLSSRGPGP
                                                      FPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQWTNLDPEQLLEELGPFASLEGFRELLDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATG 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1081
                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1141
                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           196
                          121
                                                      181
                                                                                                             241
                                                                                                                                                                    301
                                                                                                                                                                                               301
                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1201
                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                            요
                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                       원
                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                              ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
```

à

S

```
740
761
1017
1038
1045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Glycoprotein;
DOMAIN
                                                                                                                                                                                                                                                                       Foregut
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
TRANSMEM
DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
TRANSMEM
DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
 HERE TELETELETELETER BERREBEROUS COOCOCOCOCOCOCOCOCETELETELETELETELETELETE
                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                 693 FGALLGLSLYGATLVQDGLALTDVVPRGTKEHAFLSAQLRYFSLYEVALVTQGGFDYAHS 752
                                                                                                                                                                                           Gallus gailus (Chicken).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Archosauria, Aves, Neognathae, Galliformes, Phasianidae, Phasianinae,
                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .
.
.
.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                       1085 Cycoplasmic (Potential).
1086 Extracellular (Potential).
1107 Potential.
1182 Cytoplasmic (Potential).
552 SSD.
370 N-linked (GlCNAc. . .) (Potential).
812 N-linked (GlCNAc. . .) (Potential).
813 N-linked (GlCNAc. . .) (Potential).
814 N-linked (GlCNAc. . .) (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                   Pearse R.V. Jr., Vogan K.J., Tabin C.J.;
"Ptcl and Ptc2 Transcripts Provide Distinct Readouts of Hedgehog
Signaling Activity during Chick Embryogenesis.";
Dev. Biol. 0:0-0(2001).
                                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
0
                                                                                                                                               DB 1; Length 1182;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 913;
                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
         Extracellular (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 913 AA; 101047 MW; DBD8117E5D842F33 CRC64;
                        Cytoplasmic (Potential).
Potential.
Extracellular (Potential)
Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            172 MIEKLFPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQW 209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   176 MIEKLFPCVILTPLDCFWEGAKLQGGSAYLPGRPDIQW 213
                                                                                                                                                                                                                                                                                              Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                           Dev. Biol. 0:0-0(2001).

EMBL; AF409095; AAK97655.1; -.

GO; GO:00016021; C:integral to membrane; IEA.

GO; GO:0001159; F:hedgehog receptor activity; IEA.

Pfam; PF02460; Parched; 1.

TIGRFAMS; TIGR00918; 2A060602; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3.2%; Score 38; DB 2; Le 100.0%; Pred. No. 2.4e-27; tive 0; Mismatches 0;
                                                                                                                                                       100.0%; Pred. No. 4.8e-82; ative 0; Mismatches 0;
                                                                                                                                                                                                                            753 QRALFDIHQRFSSLKAVLPPPATQAPRTWLHYYR 786
                                                                                                                                                                                                                                                                               913 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT; 1220 AA
                                                                                                                                                Score 94;
                  Potential
                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30-MAY-2000 (Rel. 39, Created)
                                                                                                                                                                                                                                                                                             01-DEC-2001 (TrEMBLrel. 19, 01-DEC-2001 (TrEMBLrel. 19, 01-OCT-2003 (TrEMBLrel. 25,
                                                                                                                                                7.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROSITE; PS50156; SSD; 1.
                                                                                                                                                                 Matches 94; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STANDARD;
                                                                                                                                                                                                                                                                              PRELIMINARY;
                         991
1012
1013
1034
1064
1085
1086
1107
                                                                                                                      812
                                                                                                                                                                                                                                                                                                                       Patched 2 (Fragment).
Name=PTC2;
                                                                                                                              1182 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9031;
                                                                                           394
370
                                         1013
1014
1035
                                                                  065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          913
                                                                                   087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mar
Local St.
38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              _PTC1_BRARE
Q98864;
                                                                                                                                                                                                 693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
        DOMAIN
TRANSMEM
                         DOMAIN
TRANSMEM
                                          DOMAIN
TRANSMEM
                                                         DOMAIN
TRANSMEM
DOMAIN
                                                                                                    DOMAIN
CARBOHYD
                                                                                                                              SEQUENCE
                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                    FRANSMEM
                                                                                                                      CARBOHYD
                                                                                                                                                          Local
                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                                                  Gallus.
                                                                                                                                                                                                                                                                              090XB9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PTC1_BRARE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 5
셤
                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                   셤
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way enclised and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            roles of sonic hedgehog and protein kinase A in neural tube and somite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEVELOPMENTAL STAGE: At all stages, expression corresponds to the localization of SHH. First detected during gastrulation. By 36 hours, PTC1 appears in the first branchial arch and the posterior mesenchyme of the fin bud; by 48 hours, in the hindbrain and
                                                                                                                                                                                                                                                                                                                      TISSUE=Embryo;
MEDLINE=96379744; PubMed=8787757;
Concordet J.-P., Lewis K.E., Moore J.W., Goodrich L.V., Johnson R.L.,
Scott M.P., Ingham P.W.;
"Spatial regulation of the zebrafish patched homologue reflects the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INDUCTION: Activated by Sonic hedgehog.
PTM: Glycosylation is necessary for SHH binding (By similarity).
SIMILARITY: Belongs to the patched family.
SIMILARITY: Contains 1 sterol-sensing (SSD) domain.
                                                                                                        Brachydanio rerio (Zebrafish) (Danio rerio).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     patterning.";
Development 122:2835-2846(1996).

-!- FUNCTION: Acts as a receptor for sonic hedgehog (SHH), indian hedgehog (IHH) and desert hedgehog (DHH). Associates with the smoothened protein (SMO) to transduce the hedgehog's proteins signal (By similarity).

-!- SUBCELLULAR LOCATION: Integral membrane protein.

-!- TISSUE SPECIFICITY: Detected in embryonic presomitic mesoderm, neuroectoderm, tissue surrounding the notochord, ventral neural
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Extracellular (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Extracellular (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Extracellular (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Extracellular (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cytoplasmic (Potential).
Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cytoplasmic (Potential). Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cytoplasmic (Potential). Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cytoplasmic (Potential)
Potential.
30-MAY-2000 (Rel. 39, Last sequence update) 05-JUL-2004 (Rel. 44, Last annotation update) Patched protein homolog 1 (Patched 1) (PTC1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PIR, T48291; T18291.

ZFIN; ZDB-GENE-980526-44; ptc1.

InterPro; IPR003392; Patched.

InterPro; IPR004766; Patchedtm_recept.

InterPro; IPR000731; SSD_STM.

Ffam; PF02460; Patchedd, I.

TIGREAMS; TIGR00918; 2A060602; 1.

PROSITE; PS50156; SSD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Receptor; Transmembrane.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; X98883; CAA67386.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1016
1037
1044
1065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4449
4484
4484
5055
528
528
538
739
760
                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                       Danio.
                                                                                                                                                                                                 Cyprinidae; Dani
NCBI_TaxID=7955;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         85
106
420
```

```
TISSUB-Embryo,

X Straubberg R.L., Fargue L.L., Derge J.G.,

A Straubberg R.L., Fairgold E.A., Grouse L.H., Derge J.G.,

A Klausher R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

A Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

A Morbins R.F., Jordan H., Moore T., Max S.I., Wang J., Habth F.,

Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

Brownstein M.J., Usdin T.B., Toshiyuki S., Carninoi F., Prange C.,

Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

Richards S., Worley K.C., Hale S., Garcia M.M., Gay L.J., Hulyk S.W.,

A Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

A Mediagez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,

"Generation and initial analysis of more than 15,000 full-length human

and mouse CDNA sequences.
Xenopus laevis (African clawed frog).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Amphibia, Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=22341132; PubMed=12454917; DOI=10.1002/dvdy.10174;
Klein S.L., Strausberg R.L., Wagner L., Pontius J., Clifton S.W.,
Richardson P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'Genetic and genomic tools for Xenopus research: The NIH Xenopus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 20; DB 2; Length 1422;
Pred. No. 1.4e-09;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE=Embryo;
Klein S., Strausberg R.;
Submitted (MAY-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; BC070995; AAH70995.1; --
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:001618; F:hedgehog receptor activity; IEA.
InterPro; IPR003192; Patched.
InterPro; IPR004716; Patchedtm_recept.
InterPro; IPR00731; SSD 5TM.
PF02460; Patched; I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1422 AA; 158128 MW; 2884B2656E60CE72 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PTC2_CYNPY STANDARD; PRT; 255 AA. 042334; SAMX-2000 (Rel. 39, Last sequence update) 30-MAY-2000 (Rel. 39, Last sequence update) 05-JUL-2004 (Rel. 44, Last annotation update) Patched protein homolog 2 (PTC2) (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 451 FNAATTQVLPFLALGIGVDD 470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    476 FNAATTQVLPFLALGIGVDD 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TIGREPAS; TIGRO0918; 2A060602; 1.
PROSITE; PS50156; SSD; 1.
Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Dev. Dyn. 225:384-391(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20; Conservative
                                               Kenopodinae; Xenopus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                NCBI TaxID=8355;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Embryo;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  initiative.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PTC2_CYNPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               884448B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=20500895; PubMed=11044611; DOI=10.1016/S0925-4773(00)00436-6; 
Takabatake T., Takahashi T.C., Takabatake Y., Yamada K., Ogawa M.,
                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                        Potential.
Cytoplasmic (Potential).
Syb.
Thr-rich.
N-linked (GlCNAc. . .) (Potential).
N-linked (GlCNAc. . .) (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Distinct expression of two types of Xenopus Patched genes during early embryogenesis and hindlimb development.";
Mech. Dev. 98:99-104(2000)
EMBL; AB037688; BAB18575.1; -.
EMBL; AB037688; BAB18575.1; -.
EMBL; AB037688; BAB18575.1; -.
EMBL; AB037688; BAB18575.1; -.
EMBL; AB037689; BAB18575.1; -.
EMBL; AB037689; Patched.
InterPro; IPR004756; Patched.
InterPro; IPR004731; SSD 5TW.
Pfam; PF02460; Patched; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Amphibia, Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae,
                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.7%; Score 20; DB 2; Length 1413;
100.0%; Pred. No. 1.4e-09;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                           Score 20; DB 1; Length 1220;
                                                                                                                                                                                                                                                           0; Indels
                                                                                                                                                                                            1220 AA; 135544 MW; D10A9D04115F532D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1413 AA; 157372 MW; 1215D2D7733E7F17 CRC64;
                          Forential.
Cytoplasmic (Potential).
Potential.
Extracellular (Potential).
    Extracellular (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (TrEMBLrel. 27, Created)
(TrEMBLrel. 27, Last sequence update)
(TrEMBLrel. 27, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                            Pred. No. 1.2e-09;
                                                                                                                                                                                                             1.7%; Scc...
v 100.0%; Pred. No. -
                                                                                                                                                                                                                                                                                                                                                                                                        PRT; 1413 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT; 1422 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kenopus laevis (African clawed frog).
                                                                                                                                                                                                                                                                                                                                                                                                                                     Created)
                                                                                                                                                                                                                                                                                                           427 GGYLLMLAYACVTMLRWDCA 446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       476 FNAATTQVLPFLALGIGVDD 495
                                                                                                                                                                                                                                                                                          400 GGYLLMLAYACVTMLRWDCA 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               451 FNAATTQVLPFLALGIGVDD 470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TIGRFAMS; TIGR00918; 2A060602; 1. PROSITE; PS50156; SSD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                   Q9DEF3;
01-MAR-2001 (TrEMBLrel. 16,
01-MAR-2001 (TrEMBLrel. 16,
01-OCT-2003 (TrEMBLrel. 25,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 100.
Matches 20; Conservative
                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Xenopodinae; Xenopus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hypothetical protein.
                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=8355;
                                                                               1144
1165
421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Name=Xptch-2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Takeshima K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OGIRAS;
05-JUL-2004 (
05-JUL-2004 (
05-JUL-2004 (
                                                                                                                                                                                                                             Query ...
Best Local Similar
 DOMAIN
TRANSMEM
DOMAIN
                                                                               TRANSMEM
DOMAIN
                                                                                                                             DOMAIN
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Patched-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                              CARBOHYD
                                                                                                                                                                               CARBOHYD
                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                 TRANSMEM
                                                                   OMAIN
                                                                                                                DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QGIRAS
                                                                                                                                                                                                                                                                                                                                                                                                        Q9DEF3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 7
Q6IRAS
                                                                                                                                                                                                                                                                                                                                                                        RESULT 6
                                                                                                                                                                                                                                                                                                                                                                                     Q9DEF3
    STEPTER
                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BHHHH
                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                        ద
```

ò

Gaps

```
451 FNAATTQVLPFLALG 465
                                                                                                                  218 FNAATTOVLPFLALG 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481 FNAATTOVLPFLALG 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27,
                                                                                                                                                                                                        01-MAY-1999 (TrEMBLrel. 10, 01-MAY-1999 (TrEMBLrel. 10, 01-OCT-2003 (TrEMBLrel. 25,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity 100.
Les 15; Conservative
                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                        Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
  234 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (Human)
                                                                                                                                                                                                                                                Patched (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Patched (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
  NON TER
SEQUENCE
                                                                                                                                                                                                                                                               Name=ptc;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NON TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                 Q9Z2A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q6TKP9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL;
                                                                                                                                                         RESULT 10
                                                                                                                g
                                                                                          ò
                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                           "Hedgehog and patched gene expression in adult ocular tissues.";
FEBS Lett. 410:485-489(1997).
-!- FUNCTION: May act as a receptor for sonic hedgehog (SHH).
-!- SUBCELLULAR LOCATION: Integral membrane protein.
-!- TISSUE SPECIFICITY: In the eye, detected in neural retina, iris, retinal pigment epithelium, but not in lens.
-!- INDUCTION: Activated by hedgehog.
-!- INDUCTION: Activated by hedgehog.
-!- SIMILARITY: Belongs to the patched family.
-!- SIMILARITY: Contains 1 sterol-sensing (SSD) domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
Cynops pyrrhogaster (Japanese common newt).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Amphibia, Batrachia, Caudata, Salamandroidea; Salamandridae, Cynops.
                                                                                        MEDLINE=97379366; PubMed=9237688; DOI=10.1016/S0014-5793(97)00645-5;
Takabatake T., Ogawa M., Takahashi T.C., Mizuno M., Okamoto M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Equus caballús (Horse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
NCBI_TaxID=9796;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-linked (GlcNAc. . .) (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.6%; Score 19; DB 1; Length 255; 100.0%; Pred. No. 3.2e-09;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Semevolos S.A., Nixon A.J.;
Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
EMBL, AFS10667; AAM34780.1; -.
InterPro, IPR000731; SSD_5TW.
PROSITE; PSS0156; SSD, 1.
NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Extracellular (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                           Extracellular (Potential).
Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28391 MW; 715139F607403CB2 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-OCT-2002 (TrEMBLrel. 22, Created)
01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    234 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                          InterPro, IPR000731, SSD_5TM.
PROSITE; PS50156, SSD; 1.
Glycoprotein; Receptor; Transmembrane.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGYLLMLAYACVTMLRWDC 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        205 GGYLLMLAYACVTMLRWDC 223
                                                                                                                                                                                                                                                                                                                                                               EMBL; AB000846; BAA23305.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  255 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Patched (Fragment).
                                                                            rissue=Neuroretina;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                     NCBI_TaxID=8330;
                                                                                                                  rakeshima K.
                                                                                                                                                                                                                                                                                                                                                                                                                 NON TER
DOMAIN
TRANSMEM
DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NON TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28MKB3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q8MKB3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 9
 ઠે
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
NCBI_TaxID=10116;
                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.2%; Score 15; DB 2; Length 608;
100.0%; Pred. No. 5.4e-05;
iive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=Sprague Dawley; TISSUE=Hypothalamus;
Zhao P., Roy N.K., Xu G., Burns F.J.;
Submitted (JUL-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF079162; AAC99398.1;
GO, GO:0016020; C:membrane; IEA.
GO; GO:00160392; Patched.
InterPro; IPR0003392; Patched.
InterPro; IPR000731; SSD 5TW.
Pfam; PF02460; Patched; I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Murray J.C.;
EMBL/GenBank/DDBJ databases.
25455 MW; 614715710DD43E2C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     608 AA; 67327 MW; 73F505A1512EE9C5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                               Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Last sequence update)
Last annotation update)
                                                  Score 15; DB 2; Le
Pred. No. 2.5e-05;
                                                                                                                                                                                                                                                                                                                                                 608 AA
                                                  Query Match 1.2%; Score 15; DB Best Local Similarity 100.0%; Pred. No. 2.5 Matches 15; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MATSILIA M.A., Vieira A.R., Murray J.(
Submitted (GEP-2003) to the EMBL/GenB
EMBL, AV395759, AAR21239.1, JOINED.
EMBL, AY395761, AAR21239.1, JOINED.
EMBL, AY395761, AAR21239.1, JOINED.
EMBL, AY395763, AAR21239.1, JOINED.
EMBL, AY395767, AAR21239.1, JOINED.
EMBL, AY395767, AAR21239.1, JOINED.
EMBL, AY395767, AAR21239.1, JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                      Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Created)
                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AY395766; AAR21239.1; JOINED
```

```
MEDLINE=21095181; PubMed=11165486; DOI=10.1016/S0925-4773(00)00526-8; MEDLINE=21095181; PubMed=11165486; DOI=10.1016/S0925-4773(00)00526-8; ACCEPTIVE K., Hollemann T., Pieler T.; Molecular cloning and expression analysis of the Hedgehog receptors Trec1 and XSmo in Xenopus laevis."; Molecular cloning and expression analysis of the Hedgehog receptors T. Trec1 and XSmo in Xenopus laevis."; Mech. Dev. .100:303-308(2001).

In MECH. Dev. .100:303-308(2001).

REMBL; AF302765; AAK18463.1; "
ROJ; GO:0016021; C:integral to membrane; IEA.

GO; GO:0016021; C:integral to membrane; IEA.

ROJ; ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ; GO:0016021; C:integral to membrane; IEA.

ROJ
Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
Cyprinidae; Danio.
NCBL_TaxID=7955;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Xenopus laevis (African clawed frog).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
Xenopodinae; Xenopus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1.2%; Score 15; DB 2; Length 1418; 100.0%; Pred. No. 0.00011;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 1243;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Match 1.2%; Score 15; DB 2; Length 12% Local Similarity 100.0%; Pred. No. 9.8e-05; Length 12% es 15; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                         Lewis K.E., Concordet J.P., Ingham P.W.;
Submitted (AUG-1998) to the EMBL/GenBank/DDBJ databases.
EMBL, AJ007742, CAB39726.1;
ZFIN; ZDB-GENE-980526-196; ptc2.
GO; GO:0008158; Fledgehog receptor activity; IEA.
InterPro; IPR003392; Patched.
InterPro; IPR004766; Patchedtm_recept.
InterPro; IPR00471; SSD STW.
Pfam: PP02460. Datched.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1418 AA; 158226 MW; 4FEA30C2D5031F54 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1243 AA; 138548 MW; FABF459DB0C91371 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT; 1434 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT; 1418 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Prec. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-010N-2001 (TrEMBLrel. 17, Created)
01-010N-2001 (TrEMBLrel. 17, Last seq
01-0CT-2003 (TrEMBLrel. 25, Last ann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam; PF002460; Patched; I. TIGREAMs; TIGRE00918; 2A060602; I. PROSITE; PS50156; SSD; 1. SEQUENCE 1243 AA; 138548 MW: F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          451 FNAATTOVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  484 FNAATTQVLPFLALG 498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FNAATTOVLPFLALG 499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=8355;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 15
PTC1_MOUSE
ID _PTC1_MOUSE
AC Q61115;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Patched-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Name=Ptc1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           098SW6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          O98SW6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 14
Q98SW6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1D DTT DTT DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN DTT STAN D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
MEDLINE=20500895; PubMed=11044611; DOI=10.1016/S0925-4773(00)00436-6;
Takabatake T., Takahashi T.C., Takabatake Y., Yamada K., Ogawa M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Distinct expression of two types of Xenopus Patched genes during early embryogenesis and hindlimb development.";
Mech. Dev. 98:99-104 (2000).
EMBL; AB037686; BAB1874.2; -.
GO, GO:0016021; C:integral to membrane; IEA.
GO, GO:0008158; F:hedgehog receptor activity; IEA.
InterPro; IPR001392; Patched.
InterPro; IPR004766; Patchedem_recept.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q9W6T6;
01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Patched-2 protein.
Name=ptc2; Synonyms=ptc1;
Name=ptc2; Synonyms=ptc1;
Name=ptc2; Synonyms=ptc3;
Name=ptc2; Synonyms=ptc3;
Name=ptc2; Synonyms=ptc3;
Name=ptc2; Synonyms=ptc3;
Name=ptc3; Synonyms=ptc3;
Name=ptc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Xenopus laevis (African clawed frog).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Amphibia, Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae,
Xenopodinae, Xenopus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1.2%; Score 15; DB 2; Length 1239;
100.0%; Pred. No. 9.8e-05;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                   1.2%; Score 15; DB 2; Length 651;
100.0%; Pred. No. 5.7e-05;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1239 AA; 138127 MW; 069D4B4B8517E495 CRC64;
                                                                                                                                                                                                                                                                                                                                    651
73252 MW; FBB9F0BBBDA25E68 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NAR-2001 (TrEMBLrel. 16, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT; 1243 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT; 1239 AA.
                                                                  EMBL; AY395762; AAR21239.1; JOINED.
InterPro; IPR003392; Patched.
InterPro; IPR000731; SSD 5TM.
Ffam; PP02460; Patched; 2.
PROSITE; PS50156; SSD; 1.
NOW TER 1 1
NOW TER 651 651
SEQÜENCE 651 AA; 73252 MW; FBB9F0
                               EMBL; AY395764; AAR21239.1; JOINED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pfam, PF02460; Patched; I.
TIGRPAM; TIGROD18; 2060602; 1.
PROSTIE; PS50156; SSD; 1.
NON_TER 1239 1239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity 100.0
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
The 15; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Takeshima K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q9DEF4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9T9W6D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 13
Q9W6T6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 12
                               RARARETES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SO DR READ BRAND B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OSCIPLIA
```

Gaps

ö

ö

Gaps

. 0

Extracellular (Potential)

σ

```
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=10116;
                                                                             1061
1070
1091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN=F344;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PTC1_CHICK
ID _PTC1_CHICK
AC Q90693;
                                                                                                                                                                                                                                                                                                 CARBOHYD
CARBOHYD
SEQUENCE
                                                                           DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             451
   DOMAIN
TRANSMEM
                                        DOMAIN
TRANSMEM
                                                                                                                                                      DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                 TRANSMEM
                                                                                                                                                                                                                            CARBOHYD
                                                                                                                                                                                                                                                 CARBOHYD
                                                                                                                                                                                                                                                                CARBOHYD
                                                                                                                                                                                                                                                                                     CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Patched.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q6UY90;
                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q6UY90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 16
Q6UY90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 17
     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SO DE RELITE DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DEL LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DEL COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DE LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DEL LA COCCO DE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            원
                                                                                                                                                                                                                                                                                                                                                                                                                         -!- SUBCELLULAR LOCATION: Integral membrane protein.
-!- SUBCELLULAR LOCATION: Integral membrane protein.
-!- DEVELOPMENTAL STAGE: Expressed at low level at 7 dpc, higher level
at 11 and 15 dpc, and persists at moderate levels at 17 dpc. In
the developing embryo, PTC is first detected within the ventral
neural tube and later in the somites and limb buds. Expression in
the limb buds is restricted to the posterior ectoderm surrounding
the zone of polarizing activity. In the adult, expression is seen
in brain, lung, liver, kidney and occular tissues; lower levels in
heart, skeletal muscle, and testis.
-!- FINDCTION: Activated by Sonic hedgehog.
-!- FTW: Glycosylation is necessary for SHH binding (By similarity).
-!- SIMILARITY: Belongs to the patched family.
-!- SIMILARITY: Contains 1 sterol-sensing (SSD) domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                    Name=Ptch; Synonyms=Ptch1;
Nus muschlus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleogtomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MGD; MGI:105373; Ptch1.

GO; GO:003026; P:limb morphogenesis; IMP.

GO; GO:0040015; P:negative regulation of body size; IMP.

GO; GO:0009887; P:organisensis; IMP.

GO; GO:0007226; P:regulation of smoothened by patched; IMP.

InterPro; IPR003392; Patched.

InterPro; IPR004786; Patchedtm_recept.

InterPro; IPR004781; SSD STM.

PF02460; Patched; I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Extracellular (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Potential.
Extracellular (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Extracellular (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Potential. Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cytoplasmic (Potential). Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cytoplasmic (Potential).
 (Rel. 39, Created)
(Rel. 39, Last sequence update)
(Rel. 45, Last annotation update)
eain homolog 1 (PTC1) (PTC).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Glycoprotein; Receptor; Transmembrane.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam, PF02460, Patched, Ī.
TIGRFAMS, TIGR00918, 2A060602, 1.
PROSITE, PS50156, SSD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; U46155; AAC98798.1; -. PIR; T30172;
                                                       Patched protein homolog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4443
4458
4479
487
5533
5533
554
734
734
                                                                                                                                                                                                                                                                                                                                                                                                                 for tumorigenesis.
                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  87
108
423
444
459
480
488
30-MAY-2000 (
30-MAY-2000 (
25-OCT-2004 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ÷ ÷
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=22381811; PubMed=12469128; DOI=10.1038/nn983; Laik K., Kaspar B.K., Gage F.H., Schaffer D.V.; Sonic hedgehog regulates adult neural progenitor proliferation in vito and in vivo.";
                                                                                                                                                                                                                                                                                                                                                                                                                N-linked (GlCNAC. . .) (Potential)
N-linked (GlCNAC. . .) (Potential)
N-linked (GlCNAC. . .) (Potential)
N-linked (GlCNAC. . .) (Potential)
N-linked (GlCNAC. . .) (Potential)
                                                                                                                                                                                                                                                                                                                                                                             inked (GlcNAc. . .) (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity 100.0%; Pred. No. 0.00011;
5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 15; DB 1; Length 1434;
Pred. No. 0.00011;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         159272 MW; A5E9189E633173D0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1434 AA; 159257 MW; 7166D3C426BFA136 CRC64;
                                   Potential.
Extracellular (Potential).
                                                                                                                                                                                                                            Extracellular (Potential).
                                                                                                                                                 Cytoplasmic (Potential).
Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                      Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       05-JUL-2004 (TrEMBLrel. 27, Last sequence update) 05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nat. Neurosci. 6:21-27(2003).

BMBL, AY357891; AAQ67738.1; -.

BMBL, GO:0016021; C:integral to membrane; IEA.

GO; GO:0018158; F:hedgehog receptor activity; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT; 1434 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT; 1442 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%; Prea. ...
                                                                                                              Potential.
                                                                                                                                                                                                                                                                   Potential
                                                                                                                                                                                    Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR003392; Patched.
InterPro; IPR004766; Patchedtm_recept.
InterPro; IPR000731; SSD_STM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PEam, PF02460, Patched; I.
TIGRFAMS; TIGR00918; 2A060602; 1.
PROSITE; PS50156; SSD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481 FNAATTOVLPFLALG 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FNAATTOVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481 FNAATTOVLPFLALG 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   05-JUL-2004 (TrEMBLrel. 27,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 100...
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             451 FNAATTOVLPFLALG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                       1069
1111069
111128
11128
111440
1284
1284
1298
1398
861
986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rattus norvegicus (Rat)
                                                                                                                                                                                11108
11129
11141
11162
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
11164
1164
1164
1164
1164
1164
1164
1164
1164
1164
1164
1164
1164
1164
1164
1164
1164
1164
1164
1164
1164
1164
1164
1164
1164
1164
1
```

```
15; Conservative
                                                                                                1442
 1026
1047
1053
1074
1074
1101
11101
11120
11141
1153
                                                                                                                                                                                                                      Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                            (Human)
                                                                                                                                                                                         1442 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9606;
 769
1027
1048
1054
1075
                                                1083
1102
1121
1142
1154
1175
                                                                                                                                        349
414
827
874
                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                     IISSUE=Lung;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Scott M.P.;
                                                                                                           DOMAIN
CARBOHYD
CARBOHYD
                                       DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 syndrome.
DOMAIN
TRANSMEM
DOMAIN
                                                                               DOMAIN
TRANSMEM
                                                                                                                                                                                                            Query Match
                                                                     TRANSMEM
                                                                                                                                                                      CARBOHYD
                                                                                                                                                                                        SEQUENCE
                                                                                                                                         CARBOHYD
                                                                                                                                                            CARBOHYD
                              FRANSMEM
                                                                                                                                                    CARBOHYD
                                                                                                                                                                                CARBOHYD
                                                                                                DOMAIN
                                                                                                                                                                                                                                                                                                           PTC1 HUMAN
                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                   Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                                      TISSUE=Limb bud;
MEDLINE=96205046; PubMed=8620849;
Marigo V., Scott M.P., Johnson R.L., Goodrich L.V., Tabin C.J.;
Marigo V., Scott Megehog signaling: induction of a chicken patched
"Conservation in hedgehog signaling: induction of a chicken patched
homolog by Sonic hedgehog in the developing limb.";
Development 122:1225-1233 (1996).
                                                                                                                                                                                        CHARACTERIZATION.

WEDLINE=97064175; PubMed=8906794; DOI=10.1038/384176a0;

MEDLINE=97064175; PubMed=8906794; DOI=10.1038/384176a0;

Marigo V., Davey R.A., Zuo Y., Cunningham J.M., Tabin C.J.;

"Biochemical evidence that patched is the Hedgehog receptor.";

Nature 384:176-179(1996).

-!- FUNCTION: Acts as a receptor for sonic hedgehog (SHH), indian hedgehog (IHH) and desert hedgehog (DHH). Associates with the smoothened protein (SMO) to transduce the hedgehog's proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Extracellular (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Extracellular (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Extracellular (Potential)
Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Glycoprotein; Receptor; Transmembrane.
DOMAIN 1 101 Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Potential.
Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cytoplasmic (Potential).
30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
05-JUL-2004 (Rel. 44, Last annotation update)
Name=PTCH; Synonyms=PTC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; U400, 171838.

PIR; T18538, T18538.

InterPro; IPR003392; Patched.

InterPro; IPR004766; Patchedtm_recept.

InterPro; IPR00731; SSD 5TM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR000731; SSD_5TM. —
Bam; PF02460; Parched; 1.
TIGARAMS; TIGR00918; ASO60602; 1.
PROSITE; PS50156; SSD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; U40074; AAC59898.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4436
4472
4472
4493
501
522
524
547
574
                                                                                                            SEQUENCE FROM N.A.
                                                                                         NCBI_TaxID=9031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TRANSMEM
                                                                                Gallus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
```

```
MEDLINE-9618118; PubMed-8647801; DOI=10.1074/jbc.271.21.12125; Hahn H., Christiansen J., Wicking C., Zaphiropolous P.G., Christiansen J., Wicking C., Zaphiropolous P.G., Christiansam A., Gerrard B., Vorechovsky I., Bale A.E., Toftgard R., Dean M., Wainwright B.J.;
"A mammalian patched homolog is expressed in target tissues of sonic hedgehog and maps to a region associated with developmental abnormalities.";
J. Biol. Chem. 271:12125-12128(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chidambaram A., Goldatein A.M., Gailani M.R., Gerrard B., Bale S.J., DiGiovanna J.J., Bale A.E., Dean M., The brosophila patched gene in Caucasian and African-American nevoid basal cell carcinoma syndrome patients...; Cancer Res. 56:4599-4601(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A., AND VARIANTS BCC PRO-175 AND PRO-ASN-ILE-815 INS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Human homolog of patched, a candidate gene for the basal cell nevus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=96247324; PubMed=8658145;
Johnson R.L., Rothman A.L., Xie J., Goodrich L.V., Bare J.W.,
Bonifas J.M., Quinn A.G., Myers R.M., Cox D.R., Epstein E.H. Jr.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                   (Potential).
                                                                                                                                                                                                                                                                                                                                                                                           (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                               (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 15; DB 1; Length 1442;
Pred. No. 0.00011;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VARIANTS BCNS ARG-509; VAL-509; GLN-816 DEL AND TYR-1132.
MEDLINE-96438609; PubMed-8840969;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   160577 MW; 973E5F17FB8B6E43 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                 Potential.
Extracellular (Potential).
Potential.
3xtracellular (Potential).
                                                                                                     Extracellular (Potential).
                                           Cytoplasmic (Potential).
                                                                                                                                                   Cytoplasmic (Potential).
                                                                                                                                                                                                                                                              Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                            (GlcNAc. ..)
(GlcNAc. ..)
(GlcNAc. ..)
(GlcNAc. ..)
(GlcNAc. ..)
                                                                                                                                                                                                                                                                                                                                                                                                                                               (GlcNAc. . .)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PTC1 HUMAN STANDARD; PRT; 1447 AA. Q13635; Q13463; PRT-2000 (Rel. 39, Created) 30-MAY-2000 (Rel. 39, Last sequence update) 05-JUL-2004 (Rel. 44, Last annotation update) Patched protein homolog 1 (PTC1) (PTC).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Prec. ...
                                                                                                                                                                                                                                                                                                                                             N-linked
N-linked
                                                                               Potential
                                                                                                                                Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                               N-linked
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-linked
                                                                                                                                                                                                                                                                                                                                                                                                 N-linked
                                                                                                                                                                                                                                                                                                                                                                                                                          N-linked
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 152-1447 FROM N.A. TISSUE-Fetal brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  451 FNAATTOVLPFLALG 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             495 FNAATTQVLPFLALG 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Science 272:1668-1671(1996).
```

```
Ping X.L., Ratner D., Zhang H., Mu X.L., Zhang M.J., Chen F.F., Silvers D.M., Peacocke M., Tsou H.C.;
Silvers D.M., Peacocke M., Tsou H.C.;
"PTCH mutations in squamous call carcinoma of the skin.";
J. Invest. Dermatol. 116:614-616(2001).
-!- FUNCTION: Acts as a receptor for sonic hedgehog (SHH), indian hedgehog (IHH) and desert hedgehog (DHH). Associates with the smoothened protein (SMO) to transduce the hedgehog's proteins signal. Seems to have a tumor suppressor function, as inactivation
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hasenpusch-Theil K., Bataille V., Lachdetie J., Obermayr R., Sampson J.R., Frischauf A.-M., "Gorlin syndrome: identification of 4 novel germ-line mutations of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDIJNE=21154106; PubMed=11231326;
Reifenberger J., Arnold N., Kiechle M., Reifenberger G., Hauschild A.;
"Coincident PrfH and BRCA1 germine mutations in a patient with nevoid
basal cell carcinome syndrome and familial breast cancer.";
J. Invest. Dermatol. 116:472-474 (2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         for tumorigenesis.
SUBCELLULAR LOCATION: Integral membrane protein.
SUBCELLULAR LOCATION: Inthe adult, expressed in brain, lung, liver, heart, placenta, skeletal muscle, pancreas and kidney. Expressed in tumor cells but not in normal skin.
DEVELOPMENTAL STAGE: In the embryo, found in all major target tissues of sonic hedgehog, such as the ventral neural tube,
                                                                                                                       germ-line mutations in the nevoid basal cell carcinoma syndrome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              somites, and tissues surrounding the zone of polarizing activity of the limb bud.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        this protein is probably a necessary, if not sufficient step
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Aszterbaum M., Rothman A.L., Johnson R.L., Fisher M., Xie J., Bonifas J.M., Zhang X., Scott M.P., Epstein B.H. Jr., "Identification of mutations in the human PATCHED gene in sporadic basal cell carcinomas and in patients with the basal cell nevus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VARIANT PRO-1315.

WEDLINE-20334946; PubMed=10874314;

DOI=10.1002/1098-1004(200007)16:1<89::AID-HUMU18>3.3.CO;2-Z;

Dong J., Gailani M.R., Pomeroy S.L., Reardon D., Bale A.E.;

"Identification of PATCHED mutations in medulloblastomas by direct
                                                               ŝ
                                                                                                                                                                                                                                                                                                           "Characterisation of human patched germ line mutations in naevoid
                                                                                                                                                                                                                                            MEDLINE=98001068; PubMed=9341860;
Lench N.J., Telford E.A.R., High A.S., Markham A.F., Wicking C.,
Wainwright B.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VARIANTS BCNS SER-376 AND VAL-1083 INS, AND VARIANT BCC TRP-1114
                                                                                                                                                                                                                                                                                                                                                                                                                                       DOI=10.1002/(SICI)1098-1004(1998)11:6<480::AID-HUMU9>3.3.CO;2-W;
                                                            Negus K., Graham
                                                                                                                                                 5
                                                                                                                                      led to a premature termination of the PATCHED protein, and genotype-phenotype correlations are evident."; Am. J. Hum. Genet. 60:21-26(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VARIANTS SQUAMOUS CELL CARCINOMA MET-829 AND LYS-1242.
MEDLINE=21184537; PubMed=11286632;
                 VARIANTS BCNS TYR-513 AND ARG-1069.
MEDLINE=97136566; PubMed=8981943;
Wicking C., Shanley S., Smyth I., Gillies S., Suthers G., Haites N., Edwards M., Wainwright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Invest. Dermatol. 110:885-888(1998)
                                                                                                                                                                                                                                                                                                                                                                                              VARIANT PRO-1315.
MEDLINE=99211211; PubMed=10200051;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=98281604; PubMed=9620294;
                                                                                                                                                                                                                                                                                                                                 l cell carcinoma syndrome.";
Genet. 100:497-502(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        human patched (PTCH) gene.";
Hum. Mutat. 11:480-480(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hum. Mutat. 16:89-90(2000).
                                                                                                                                                                                                     [5]
VARIANT NBCCS ASP-1438.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VARIANT BCNS PRO-1132.
                                                                                                   Chenevix-Trench G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sequencing.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     syndrome
                                                                                                                                                                                                                                                                                                                                   basal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <del>-</del>;
```

```
DISEASE: Defects in PTCH are a cause of sporadic basal cell
carcinoma (BCC) [MIM:605462].
SIMILARITY: Belongs to the patched family.
SIMILARITY: Conteains 1 sterol-sensing (SSD) domain.
DATABASE: NAME=PTCH mutation database;
WWW=HTCP://www.cybergene.se/PTCH/ptchbase.html".
DATABASE: NAME=Atlas Genet. Cytogenet. Oncol. Haematol.;
WWW=http://www.infobiogen.fr/services/chromcancer/Genes/PTCH100.html".
                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
DISEASE: Defects in PTCH are probably the cause of basal cell nevus syndrome (BCNS) [MIM:109400]; also known as Gorlin syndrome or Gorlin-Goltz syndrome. BCNS is an aucosomal dominant disease characterized by nevoid basal cell carcinomas (NBCCS) and developmental abnormalities such as rib and craniofacial alterations, polydactyly, syndactyly, and spina bifida. In addition, the patients suffer from a multitude of tumors like basal cell carcinomas (BCC), fibromas of the ovaries and heart, crysts of the skin, jaws and mesentery, as well as medullobbastomas and meningiomas. PTCH is also mutated in squamous cell carcinoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TIGRFAMs; TIGR00918; 2A060602; 1.
PROSITE; PS50156; SSD; 1.
Anti-oncogene; Disease mutation; Glycoprotein; Polymorphism; Receptor;
                                                                                                                                        and meningiomas. PTCH is also mutated in squamcus cert carrillians (SCC). Could also be associated with large body size observed in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Extracellular (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Extracellular (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Extracellular (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Extracellular (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Extracellular (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Extracellular (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GO, GO:0005887; C:integral to plasma membrane; TAS.
GO; GO:0004872; F:receptor activity; TAS.
GO; GO:0008283; P:cell proliferation; TAS.
GO; GO:0009653; P:morphogenesis; TAS.
GO; GO:0007165; P:signal transduction; TAS.
InterPro; IPR003392; Patched.
InterPro; IPR004766; Patchedtm_recept.
InterPro; IPR004766; Patchedtm_recept.
InterPro; IPR004766; Patchedtm_recept.
ITGRFAMS; TIGR09918; ZA060602; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Potentia]
                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; U59464; AACS0550.1; -. EMBL; U43148; AACS0496.1; -. Genew; HGNC:9585; PTCH. MIM; 601309; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100
451
453
453
472
472
472
552
552
568
574
768
102
102
1048
1104
1104
11104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1154
1175
1447
                                                                                                                                                                      BCNS patients.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MIM; 109400; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Transmembrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MIM; 605462;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
```

Cytoplasmic (Potential).

of the limb bud. PTM: Glycosylation is necessary for SHH binding (By similarity).

```
287 AA;
                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                 NON TER
NON TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                             σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NON TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        066PH3;
                                                                            Q9DDZ0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           666рн3
                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                   RESULT 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q66PH3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
              엄
                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDINE-2218825; PubMed=12477932; DOI=10.1073/pnas.242603899;
MEDINE-2218825; PubMed=12477932; DOI=10.1073/pnas.242603899;
MEDINE-2218825; PubMed=12477932; DOI=10.1073/pnas.242603899;
MEDINE-2218825; PubMed=12477932; DOI=10.1073/pnas.242603899;
MEDINE-2218825; PubMed=12477932; DOI=10.1073/pnas.242603899;
MEDINE-2218825; PubMed=12477932; DOI=10.1073/pnas.242603899;
MEDINE-2218825; PubMed=12477932; DOI=10.1073/pnas.242603899;
MEDINE-2218825; Marusina F., Mence T., Max S.I., Wang J., Hasieh F.,
MEDINE-2218825; Medin T.B., Toshiyuki S.I., Rang J., Hang L.,
MEDINE-2218825; Medin T.B., Toshiyuki S., Carninci P., Prange C.,
MEDINE-2218825; Medin T.B., McKernan K.J., Malek J.A., Gunaratne P.H.,
MEDINE-2218825; Medin T.B., McKernan K.J., Malek J.A., Gunaratne P.H.,
MILATON D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A.,
Milaton D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A.,
Milating M., Madan A., Young A.C., Shevchenko Y., Boulfard G.G.,
Miking M., Madan A., Young A.C., Shevchenko Y., Boulfard G.G.,
Miking M., Madan A., Young A.C., Shevchenko Y., Boulfard G.G.,
Miking M., Madan A., Young A.C., Shevchenko Y., Boulfard G.G.,
Miking M.J., Marra M.A.,
Medines S.J., Marra M.A.,
Medines S.J., Marra M.A.,
Medinitial analysis of more than 15,000 full-length human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                               (Potential). (Potential). (Potential).
                                                    (Potential).
                                        (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
0
                                                                                                                                                                                                          ö
                                                                                                                                          /FTId=VAR_007844.
G -> R (in BCNS; could be a rare
Gly-rich.
SSD.
N-linked (GlCNAc. ..) (Potentia
N-linked (GLCNAc. ..) (Potentia
N-linked (GLCNAc. ..) (Potentia
N-linked (GLCNAc. ..) (Potentia
N-linked (GLCNAc. ..) (Potentia
N-linked (GLCNAc. ..) (Potentia
L -> P (in BCNS; sporadic BCC).
Frid=vAr_007843.
/FIId=vAr_007844.
                                                                                                                                                                              Score 15; DB 1; Length 1447;
Pred. No. 0.00011;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 183;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE-Brain;
Strausberg R.;
EMBL; BC043542; AAH43542.1; -.
Hypothetical protein.
STOUENCE 183 AA; 20842 MW; ACACB6FBB7947D07 CRC64;
                                                                                                                                                                                                                                                                                                                                                           Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.1%; Score 13; DB 2; I
100.0%; Pred. No. 0.0018;
ative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                         183 AA
                                                                                                                                                                                      100.0%; Prec. ...
                                                                                                                                                                                                                                                                                                                                                 Created)
                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                  451 FNAATTQVLPFLALG 465
                                                                                                                                                                                                                                                495 FNAATTQVLPFLALG 509
                                                                                                                                                                                                                                                                                                                                                           01-JUN-2003 (TrEMBLrel. 24, 01-JUN-2003 (TrEMBLrel. 24,
                                                                                                                                                                                 1.2%;
                                                                                                                                                                                                                                                                                                                                              01-JUN-2003 (TrEMBLrel. 24,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and mouse cDNA sequences."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                              376
                                                                                                                                                        509
                                                                                                                                                                                                                                                                                                                                                                                    Hypothetical protein.
Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9606;
                                                                                                                                                        509
                                                                                                                              376
                                                                                                                                                                                                        Matches 15;
                                     CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
               DOMAIN
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                              VARIANT
                                                                                                                                                        VARIANT
                                                                                                       VARIANT
                                                                                                                                                                                                                                                                                                                        086XG7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Loca
Matches
                                                                                                                                                                                                                                                                                                RESULT 19
                                                                                                                                                                                                                                                                                                                         ઠે
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
MEDLINE=20461147; PubMed=11003839;
MEDLINE=20461147; PubMed=11003839;
MEDLINE=20461147; PubMed=11003839;
MEDLINE=20461147; PubMed=1100 during A.;
Mellor functions in FGF signaling during antero-posterior patterning.";
Development 127:4395-4405(2000).
MEMBL, FAS24386; AAG45554-1;
MEMPLYPRO; IPRO00731; SSD 5TM.
PROSITE; PS50156; SSD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Astyanax fasciatus (Blind cave fish) (Astyanax mexicanus).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Characiformes;
Characidae; Astyanax.
NCBI_TAXID=7994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
Yamamoto Y., Stock D.W., Jeffery W.R.;
"Hedgehog Signaling Controls Eye Degeneration in Blind Cavefish.";
Submitted (JUM-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; AY661434; AAU04949.1; -.
                                                                                                                                        Patched-1 (Fragment).
Xenopus laevis (African clawed frog).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
Xenopodinae; Xenopus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0.9%; Score 11; DB 2; Length 176; 100.0%; Pred. No. 0.16; 0; Indels ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.0%; Score 12; DB 2; Length 287;
100.0%; Pred. No. 0.025;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9514D1B9C5BE3ACA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                31800 MW; EZE8590EAD2F6474 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25-OCT-2004 (TrEMBLrel. 28, Created)
25-OCT-2004 (TrEMBLrel. 28, Last sequence update)
25-OCT-2004 (TrEMBLrel. 28, Last annotation update)
                                                     01-WAR-2001 (TrEMBLrel. 16, Created)
01-WAR-2001 (TrEMBLrel. 16, Last sequence update)
01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
287 AA
PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              176 AA; 19885 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Patched protein (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         188 PLDCFWEGAKLQ 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity 100
nes 11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PLDCFWEGAKLO 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       197 KLQGGSAYLPG 207
  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KLQGGSAYLPG
```

RESULT 22

187 TPLDCFWEGAKLQ 199

ઠે

```
Eukaryota, Metazoa, Nematoda, Chromadorea, Rhabditida, Rhabditoidea,
Rhabditidae, Peloderinae, Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bukaryota, Metazoa, Nematoda, Chromadorea, Rhabditida, Rhabditoidea,
Rhabditidae, Peloderinae, Caenorhabditis.
                                                                                                                                                                                                                                         sequence of the nematode C. elegans: a platform for gating biology. The C. elegans Sequencing Consortium.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Genome sequence of the nematode C. elegans: a platform for investigating biology."; Science 282:2012-2018(1998).
-1- FUNCTION: Required but not essential for cytokinesis of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A., FUNCTION, SUBCELLULAR LOCATION, TISSUE SPECIFICITY, AND DEVELOPMENTAL STAGE.
MEDLINE=20381004; PubMed=10921907;
Kuwabara P.E., Lee M.-H., Schedl T., Jefferis G.S.X.E.;
"A C. elegans patched gene, ptc-1, functions in germ-line cytokinesis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 11; DB 2; Length 667;
Pred. No. 0.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FACTOR 12;
STRAIN-BELISTOI N2;
Wormbase Consortium;
Submitted (SEP-2004) to the EMBL/GenBank/DDBJ databases.
BMBL, U23176; AAC46717.2; -
GO; GO:00160150; C:membrane; IEA-
GO; GO:0008158; F:hedgehog receptor activity; IEA-
GO:0008158; F:hedgehog receptor activity; IEA-
GO:0008158; F:hedgehog receptor activity; IEA-
GO:0008158; F:hedgehog receptor activity; IEA-
GO:0008158; F:hedgehog receptor activity; 
                                                                                                                                                                                                                                                                                                                                                                                         Favello A., R Wilson.;
"The sequence of C. elegans cosmid F21H12.";
Submitted (APR-1995) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (NOV-2002) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29-MAR-2004 (Rel. 43, Created)
29-MAR-2004 (Rel. 43, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0.9%; Scor.
100.0%; Pred. No. v.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT; 1405 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN=Bristol N2;
MEDLINE=99069613; PubMed=9851916;
The C. elegans sequencing consortium;
                                                                                                                                             SEQUENCE FROM N.A.
STRAIN-Bristol N2;
MEDLINE-99069613; PubMed-9851916;
Name=ptc-2; ORFNames=F21H12.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Name=ptc-1; ORFNames=ZK675.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Genes Dev. 14:1933-1944(2000)
                                                                                                                                                                                                                                                                     investigating biology. The C.
Science 282:2012-2018(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1026 VGIGVEFTVHV 1036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Patched protein homolog 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               613 VGIGVEFTVHV 623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Caenorhabditis elegans.
                         Caenorhabditis elegans
                                                                                                                                                                                                                    WormBase Consortium;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. STRAIN=Bristol N2;
                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. STRAIN=Bristol N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                              NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Waterston R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAEEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                                                 "Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 24
ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                        TISSUE=Neuroretina;
MEDLINE=97379366; PubMed=9237688; DOI=10.1016/S0014-5793(97)00645-5;
Takabatake T., Ogawa M., Takahashi T.C., Mizuno M., Okamoto M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cynops pyrrhogaster (Japanese common newt).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Amphibia; Batrachia; Caudata; Salamandroidea; Salamandridae; Cynops.
                                                                                                                                                                                                                                                                                                                                                                                                                Takeshima K.; "Hedgehog and patched gene expression in adult ocular tissues.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-linked (GlcNAc. .) (Potential).
N-linked (GlcNAc. .) (Potential).
N-linked (GlcNAc. .) (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0.9%; Score 11; DB 1; Length 257; 100.0%; Pred. No. 0.22; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Extracellular (Potential). Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28480 MW; 81C00FCC85D4633C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Last sequence update)
Last annotation update)
                                                                                            30-MAY-2000 (Rel. 39, Last sequence update) 05-JUL-2004 (Rel. 44, Last annotation update) Patched protein homolog 1 (PTC1) (Fragment).
                       257 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     667 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Glycoprotein; Receptor; Transmembrane.
NON_TER 1 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Created)
                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; AB000848; BAA21678.1; -.
InterPro; IPR000731; SSD 5TM.
PROSITE; PS50156; SSD; 1
                                                                  30-MAY-2000 (Rel. 39, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-NOV-1996 (TrEMBLrel. 01,
01-NOV-1996 (TrEMBLrel. 01,
01-OCT-2003 (TrEMBLrel. 25,
Patched family protein 2.
                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VGLAGVLLVAL 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   . 257 2
.257 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 11; Conserv
                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                   NCBI_TaxID=8330;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             009540
009540;
01-NOV-1996 (
01-NOV-1996 (
01-OCT-2003 (
                    CYNPY
                                                                                                                                                                    Name=PTC1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NON TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CARBOHYD
```

DOMAIN

RESULT 23 009540

24448

셤

ઠે

ö

Gaps

Gaps

ö

```
Cocazaki N., Kikuno R.F., Ohara R., Inamoto S., Koseki H., Hiraoka S., Saga Y., Seino S., Nishimura M., Kaisho T., Hoshino K., Kitamura H., Angase T., Ohara O., Koga H.;

Angase T., Ohara O., Koga H.;

Angase T., Ohara O., Koga H.;

Prediction of the Coding Sequences of Mouse Homologues of KIAA Gene:

IV. The Complete Nucleotide Sequences of 500 Mouse KIAA-Homologous

CDMAS Identified by Screening of Terminal Sequences of cDNA Clones

TRANDAS Identified by Screening of Terminal Sequences of CDNA Clones

TRANDAS Identified by Screening of Terminal Sequences of CDNA Clones

TRANDAS Identified by Screening of Terminal Sequences of CDNA Clones

TRANDAS Identified by Screening of Terminal Sequences of CDNA Clones

TRANDAS Identified by Screening of Terminal Sequences of CDNA Clones

TRANDAS Identified Size-Fractionated Libraries.";

BNBL, AKI7152; BAD32430.1; -.

ROG GO:0016020; C:membrane; IEA.

ROG GO:0016020; C:membrane; IEA.

ROG GO:0018158; F:hedgehog receptor activity; IEA.

RITHERPRO; IPRO0711; SSD STM.

REPROSITE; PSS0156; SSD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                 Homo sapiens (Human).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi;
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0.8%; Score 10; DB 2; Length 1243;
100.0%; Pred. No. 7.6;
                                                                                                                                                                                                                                                                    0.8%; Score 10; DB 2; Length 345; 100.0%; Pred. No. 2.6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1243 AA; 136915 MW; 543ED23C350D5949 CRC64;
                                                                                                                   Mansilla M.A., Vieira A.R., Murray J.C.;
Submitted (SEP-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; AX395769; ARX21240-1; JOINED.
EMBL; AX395771; ARX21240-1; JOINED.
EMBL; AX395771; ARX21240-1; JOINED.
EMBL; AX395772; AAR21240-1; -.
                                                                                                                                                                                                                     NON TER 1 1 SEQÜENCE 345 AA; 37221 MW; 4475791C5A80A469 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Created)
Last sequence update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT; 1243 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT; 1331 AA.
                                                                                                                                                                                                                                                                               100.08; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Prec. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MKIAA1337 protein (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25-OCT-2004 (TrEMBLrel. 28, 25-OCT-2004 (TrEMBLrel. 28, 25-OCT-2004 (TrEMBLrel. 28,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27,
                                                                                                                                                                                                                                                                                                       10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ||||||||||
1059 LLPVLLSILG 1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                         1081 FDFIVRYFFA 1090
                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1106 LLPVLLSILG 1115
                                                                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
   Patched (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                     SEQUENCE FROM N.A.
                                                             NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                          43
                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NON TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q6T3U3
                                                                                                                                                                                                                                                                                                                                                                                                                                                          969ZL6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 27
Q6T3U3
ID Q6T3U:
AC Q6T3U:
DT 05-JUI
DT 05-JUI
                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 26
Q69ZL6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its muse by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
0
            "SUBCELLULAR LOCATION: Integral membrane protein; highly concentrated in a punctate pattern at the apices and internal membranes adjacent to the rachis. Expression is more internse in the distal proliferative region and in oocytes of the gonad arm.
-!- TISSUE SPECIFICITY: Germ line and its progenitors.
-!- DEVELOPMENTAL STAGE: Expressed both maternally and zygotically.
-!- MISCELLANBOUS: Membrane proteins Patch and Smoothened form a receptor complex that binds Hedgehog morphogens. Despite the lack of Hh and Smo homologs, ptc-1 is still found to be functional. Absence of ptc-1 leads to the formation of multinucleate germ cells and sterility.
-!- SIMILARITY: Belongs to the patched family.
-!- SIMILARITY: Contains 1 sterol-sensing (SSD) domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.9%; Score 11; DB 1; Length 1405; 100.0%; Pred. No. 0.89; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     155454 MW; 9529FBD7B552EF3E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Potential.
Extracellular (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Extracellular (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Extracellular (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Extracellular (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Extracellular (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                         R Germonline; 209440; ...
R WormBase; WBGene00004208; ptc-1.
R WormPep; ZK675.1; CE01720.
R InterPro; IPR00331; Patched.
R InterPro; IPR000331; SSD 5TM.
PF02460; Patched; I.
PR021E; PS611S6; SSD, 1.
Cell cycle; Cell division; Mitosis; Transmembrane.
DOMAIN
1 646 Cytonlasmin (Portering)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         345 AA.
mitotically proliferating germ cells.
SUBCELLULAR LOCATION: Integral membra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (TrEMBLrel. 27, CTrEMBLrel. 27, ICTEMBLrel. 27, ICTEMBLrel. 27, ICTEMBLrel. 27, ICTEMBLRER.
                                                                                                                                                                                                                                                                                                                                                                                      EMBL; Z46812; CAA86843.1; -. PIR; T27969; T27969.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1026 VGIGVEFTVHV 1036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1242 VGIGVEFTVHV 1252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1193
1235
1256
1256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1294
1302
1323
1405
813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ą,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity
Matches 11; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  651
1405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      05-JUL-2004
05-JUL-2004
05-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TRANSMEM
DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
TRANSMEM
DOMAIN
TRANSMEM
DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ОбТКРВ
ОбТКРВ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q6TKP8
 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ST TT
```

ö

Gaps

ó

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAY-2004 (TrEMBLrel. 26, Last annotation update)
Niemann-Pick Cl-like protein 1.
Name-NPC1L1;
Homo saplens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN-C57BL/6;
Altmann S.W., Davis H.R. Jr., Zhu L.-J., Yao X., Hoos L.M., Tetzloff G., Iyer S.P.N., Maguire M., Golovko A., Zeng M., Wang I murgolo N.J., Graziano M.P.;
Niemann-Pick C1-like 1 (NPC1L1) is critical for intestinal cholesterol absorption.";
Science 0:0-0(2004).
EMBL; AY437866; AAR97887.1; -.
C) GO.0404262; P.:cholesterol homeostasis; IMP.
InterPro: IPR003392; Patched.
InterPro: IPR003392; Patched.
InterPro: IPR00311; SSD_STM.
                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                 Score 10; DB 2; Length 1332;
Pred. No. 8.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0.8%; Score 10; DB 2; Length 1333; 100.0%; Pred. No. 8.1;
                                                                             Pfam; PF02460; Patched; I.
TIGREAMS; TIGRO9917; 2A060601; 1.
PROSITE; PS0156; SED; 1.
SEQUENCE 1332 AA; 145762 MW; EFE94F80309C3BF2 CRC64;
                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                147130 MW; 7771520D9B352735 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Last sequence update)
Last annotation update)
                                                                                                                                                                0.8%; Scc...
V 100.0%; Pred. No. o...
  GO:0030301; P:cholesterol transport; IEA
                                                                                                                                                                                                                                                                                                                                                                                                                  PRT; 1333 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT; 1359 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Pred. nc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF02460; Patched; I.
TIGRFAMs; TIGR00917; 2A060601; 1.
GO; GO:0030301; P:cholesterol t
InterPro; IPR004765; NP C type.
InterPro; IPR003392; Patched.
InterPro; IPR000731; SSD_STM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27,
                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                 1096 TLLGLLHGLV 1105
                                                                                                                                                                                                                                                                                          1247 TLLGLLHGLV 1256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1248 TLLGLLHGLV 1257
                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1096 TLLGLLHGLV 1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                05-JUL-2004 (TrEMBLrel. Niemann-Pick C1-like 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS50156; SSD; SEQUENCE 1333 AA; 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus musculus (Mouse)
                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Name=Npc111;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                              Q6T3U4
Q6T3U4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9UHC9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                          RESULT 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ξ
                                                                                                                                                                                                                                                                                                                                                                                               ретзи
  8
                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                   SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

A Attmann S.W., Davis H.R. Jr., Zhu L.-J., Yao X., Hoos L.M.,

A Attmann S.W., Davis H.R. Jr., Zhu L.-J., Yao X., Hoos L.M.,

A Tetzloff G., Iyer S.P.N., Maguire M., Golovko A., Zeng M., Wang L.,

A Wingolo N.J., Graziano M.P.;

Tholesterol absorption.";

Tholesterol absorption.";

Tholesterol absorption.";

Science 0:0-0(2004).

E EMBL; AY437867; AAR97888.1; -

SC GO:0016021; C:integral to membrane; IEA.

BRJ; AY437867; AAR97888.1; -

RG; GO:0016021; C:integral to cceptor activity; IEA.

GO; GO:0018018; F:hedgehog receptor activity; IEA.

GO; GO:003301; F:cholesterol transport; IEA.

InterPro; IPR0003192; Pacched.

R InterPro; IPR00011; SSD 5TM.

R InterPro; IRR00011; SSD 5TM.

R Ffam; PF02460; Patched; I.
                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=20247253; PubMed=10783261; DOI=10.1006/geno.2000.6151; MEDLINE=20247253; PubMed=10783261; DOI=10.1006/geno.2000.6151; Davies J.P., Levy B., Ioannou Y.A.; "Evidence for a Niemann-pick C (NPC) gene family: identification and Characterization of NPCLI."; Genomics 65:137-145(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (Human).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Altmann S.W., Davis H.R. Jr., Zhu L.-J., Yao X., Hoos L.M., Altmann S.W., Davis H.R. Jr., Zhu L.-J., Yao X., Hoos L.M., Ferzloff G., Iyer S.P.N., Maguire M., Golovko A., Zeng M., Wang Il Murgolo N.J., Graziano M.P.;
Murgolo N.J., Graziano M.P.;
"Niemann-Pick Cl-like I (NPCILI) is critical for intestinal cholesterol absorption.";
Cholesterol absorption.";
EMBL; AV515256; AAS5039.1; --
EMBL; AV417865; AAS97886.1; --
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0008158; F:hedgehog receptor activity; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0.8%; Score 10; DB 2; Length 1331;
100.0%; Pred. No. 8.1;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1331 AA; 146414 MW; 2E10EF2E3A337F70 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
Davies J.P., Ioannou Y.A.;
Submitted (DEC-2003) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           05-JUL-2004 (TrEMBLrel. 27, Created)
05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
NPCILI splice variant (Niemann-Pick CI-like 1).
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT; 1332 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS50156; SSD; 1
SEQUENCE 1331 AA; 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1096 TLLGLLHGLV 1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1248 TLIGLINGIV 1257
                   Niemann-Pick C1-like 1.
                                                       Rattus norvegicus (Rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q6R3Q4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 28
Q6R3Q4
```

셤 ò

```
RP SEQUENCE FROM N.A.

RX MEDLINE=20247253; PubMed=10783261; DOI=10.1006/geno.2000.6151;

RA Davids 2.047253; PubMed=10783261; DOI=10.1006/geno.2000.6151;

RT "Evidence for a Niemann-pick" (NPC) gene family: identification and RT characterization of NPC111.";

RD Genomics 65:137-145(2000).

REMBL; AF192322; AAF20396.; -

DR Genew; HGNC:7895 NPC_CTYPE.

DR GOIS918; P:sterol transport; TAS.

DR InterPro; IPR004765; NP_CTYPE.

DR InterPro; IPR004765; NP_CTYPE.

DR InterPro; IPR000332; Patched.

DR InterPro; IPR0003132; Patched.

DR InterPro; IPR0003132; Patched.

DR Ffam; PF02460; Patched.i.

DR PROSITE; PS50156; SSD: 11.

DR PROSITE; PS50156; SSD: 11.

DR PROSITE; PS50156; SSD: 11.

QUETY Match

QUETY Match

QUETY Match

10; Conservative 0; Mismatches 0; Indels 0; Gaps

QUETY Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps

DS 1274 TLIGLLHGLV 1105

DD 1274 TLIGLLHGLV 1283

Search completed: June 16, 2005, 08:07:59

JOB time: 202 secs
```